

ORDER

6040.15D

NATIONAL AIRSPACE PERFORMANCE REPORTING SYSTEM



November 20, 1999

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

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RECORD OF CHANGES

DIRECTIVE NO.

6040.15D

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CHAPTER 1. GENERAL

SECTION 1. INTRODUCTION

100. **PURPOSE.** This order sets forth requirements and procedures for reporting interruptions to facilities and services in the National Airspace System (NAS). It requires that interruptions be reported in a uniform manner using standard definitions, criteria, procedures, and terminology. The National Airspace Performance Reporting System (NAPRS) serves as a timely and accurate performance information system for use in determining and evaluating the operating condition of NAS facilities/services and the movement of air traffic.

101. **DISTRIBUTION.** This order is distributed to division level in Airway Facilities and Air Traffic Airspace Management in Washington headquarters; to branch level in the regional Airway Facilities and Air Traffic divisions; to selected Air Traffic field offices, and to all Airway Facilities field offices with a standard distribution.

102. **CANCELLATION.** Order 6040.15C, National Airspace Performance Reporting System, dated December 23, 1991.

103. **EFFECTIVE DATE.** This order is effective November 20, 1999.

104. **BACKGROUND.** Variations in interpretation of definitions and requirements continue to cause minor problems in the facility/service interruption reporting process. New facilities and services have been added to the National Airspace System (NAS) environment, which have been implemented through the Capital Investment Plan (CIP) process. Additionally, there is a renewed interest in the performance level of all existing facilities. This revision addresses these problems and establishes new requirements to enhance and ensure the continued accuracy and usefulness of the NAPRS database.

105. **EXPLANATION OF CHANGES.** Most changes result from new facility and service reporting requirements, further clarification of current reporting requirements, incorporation of requirements identified in action notices, memoranda, General Notices (GENOT), and recommendations from the field intended to improve the accuracy of NAPRS. The most significant changes are outlined below. Each facility/service acronym which follows is listed alphabetically in Appendix 4, Glossary.

a. Interruption reporting requirements for Mode S Data Link (MODES) facilities have been revised, included is the introduction of MODES Secondary Radar Service (MSEC) and MODES Data Service (MDAT) reporting.

b. All references to "daily" and "non daily" interruption reporting have been removed from the directive.

c. Introduction of a one digit supplemental cause code. This code used in conjunction with the standard two digit cause code will more clearly identify the cause of interruption.

d. Introduction of enhanced reporting requirements for interruptions caused by Facility Power and Support Systems (FPS). FPS systems are identified as Engine Generators (E/G), Power Conditioning Systems (PCS), air conditioning systems, power distribution panels, etc.

e. Bright Radar Indicator Tower Equipment (BRITE) has been added to the list of facilities applicable for full interruption reporting.

f. A reference guide has been added (Appendix 1, Reference Guides) which will assist in locating specific paragraphs related to facilities or services within the directive.

g. Redundant equipment/channel reportable equipment (RE) reporting has been removed (formerly 6040.15C, paragraph 305).

h. Removed all reference to NASPIX.

i. Removal of Display Channel Complex (DCC) equipment and replaced with Display Channel Complex Rehost (DCCR) equipment.

k. Added reporting requirements for the following new equipment: Display System Replacement (DSR), Micro En Route Automated Radar Tracking System (MEART), Precision Runway Monitor (PRM), Satellite Communications Network (SACOM), Standard Terminal Automation Replacement System (STARS), Engine Generator (SX), Terminal Radar Video Switching System (TRVSS), VSCS Emergency Access Radio System (VEARS), VSCS Training and Backup Switch (VTABS), and Wind Measuring Equipment (WME).

l. Added reporting requirements for the following new services: Airport Surface Detection Equipment Service (ASDES) and WMSCR Data Service (WDAT).

m. Deletion of former Chapters 5 and 6; and former Appendices 1, 4 and 6.

n. Global change from Air Traffic Management (ATM) to Air Traffic Operations (ATO).

o. Removed natural disaster reporting from status code "G" and included in the reporting requirements under status code "F".

p. Additional Reduced Service (RS) Reporting has been removed (formerly 6040.15C, paragraph 312).

q. Added Paragraph 206, Status Code "F", Temporarily Out-of-Service Evaluation Criteria.

r. Added Paragraph 217, Remote Maintenance Monitoring.

s. Added Paragraph 218, Log of Corrective Maintenance (LCM).

t. Added Paragraph 219, Additional Log Interrupt Report (LIR) Requirements.

106. **DEFINITION OF TERMS.** Definitions given in this paragraph are intended to explain the various terms being used in NAPRS. In addition, a glossary (Appendix 4, Glossary) has been provided for acronyms and abbreviations commonly used in NAPRS.

a. **Associated Facility/Service Interruption.** An interruption to an associated facility/service that actually failed or was initially interrupted.

b. **Cause Code.** A cause code is a two-digit code with the addition of new supplemental codes which closely describes the type of facility or service interruption. Detailed information concerning cause codes is contained in paragraph 205 of this order.

c. **Center Radar Automated Radar Terminal System (ARTS) Processing (CENRAP).** A software/hardware modification that provides backup alphanumeric information using target data received by the ARTS equipment via the en route automation computer system through the existing IDAT (NAS/ARTS) interface. An azimuth pulse generator provides display sweep if needed. Interruption reporting of the Terminal Automated Radar Service (TARS) is required during CENRAP operation. (See paragraph 211b(6) for TARS reporting requirements.)

d. **Commissioned.** A facility, system, subsystem, or equipment is commissioned when it has been formally accepted and placed into operational use or service in the NAS, and its controlling Airway Facilities (AF) System Management Office (SMO) has assumed formal maintenance responsibility.

e. **Commissioning.** The formal exercise of incorporating a new facility, system, subsystem, or equipment into the NAS. This term has legal and budgetary significance and is used to justify logistic and operational support as an FAA obligation under public law.

f. **Coordinated Universal Time (UTC).** UTC has replaced Greenwich Mean Time (GMT) as the accepted standard for clock time in many countries. It is also the time provided in the worldwide time signal broadcasts used in aviation.

g. **Facility.** Generally, any installation of equipment designated to aid in the navigation, communication, or control of air traffic. Specifically, the term denotes the total electronic equipment, power generation, or distribution systems and any structure used to house, support, and/or protect these equipment and systems. A facility may include a number of systems, subsystems, or equipment; e.g., a long-range radar facility, or a single system, subsystem, or equipment, such as an isolated Radio Communications Link Repeater (RCLR) facility.

h. **Facility/Service Operational Time.** The time from facility/service restoration until the time the facility/service is released by appropriate Air Traffic (AT) personnel or until the next interruption occurs (i.e. the time period in which the facility/service is available to Air Traffic for use in the NAS).

i. **Facility/Service Available but Not in Use.** The period of time from when the facility/service is operationally available until it is accepted for operational use; i.e., AT decides not to use the facility/service due to existing condition. (See paragraph 201 of this order for reporting procedures.)

j. **Facility/Service Deteriorated but Usable and Not Released by AT.** The time when a facility/service has deteriorated to below standards until that time when the appropriate AT personnel release the facility/service for maintenance. Certification may or may not have been partially or fully removed. Application of guidance for this condition may be found in the latest editions of Order 7210.3, Facility Operation and Administration, and Order 6000.15, General Maintenance Handbook for Airway Facilities. These incidents shall be reported as unscheduled interruptions at the time AT releases the facility/service for maintenance. In addition, a reduced facility/service operation may result if the criteria as specified under paragraph 106t of this order are met. (See paragraphs 201 and 311 of this order for reporting requirements.)

k. **Frequency.** A simplex channel of air/ground communications utilizing the same frequency for transmission and reception.

l. **Hardware.** In computer applications and elsewhere, the term hardware refers to the physical equipment or devices used to perform simple or complex functions. This term must be qualified by using an appropriate restrictive modifier to convey a specific identification or meaning.

m. **Incident.** A single occurrence relating to an interruption.

- n. **Interruption.** A break in continuity, the loss, or unavailability, of a facility/service regardless of duration.
- o. **May.** MAY means an action is permitted.
- p. **Monthly.** A reporting interval meaning one calendar month.
- q. **Outage.** The loss of facility/service for 1 minute or more.
- r. **Periodic.** An occurrence or recurrence at regular intervals.
- s. **Personnel Error.** Any interruption of a facility/service caused by human error.
- t. **Reduced Facility/Service Operation.** When a facility or service is in use but is not capable of fulfilling its complete intended mission, or Air Traffic personnel declare an operational impact; such as, the necessity to combine positions, delay of air traffic, and/or loss of essential Air Traffic Control (ATC) functions. Reduced facility/service operation is not limited to automation services. The "RS" code is used for both reduction of service and reduction of facility operation. (See paragraph 311 of this order for reporting procedures.)
- u. **Reimbursable.** Reimbursable means that the FAA maintains equipment/facilities which are not owned by the FAA and receives a reimbursement for this service.
- v. **Related Facility/Service Interruption.** An interruption of a facility/service caused or necessitated by an interruption of another facility/service. (See paragraph 201d; Appendix 2, Examples of Reporting Incidents, for reporting procedures and examples.)
- w. **Report Date/Time of an Interruption.** When referring to an interruption incident, the report date/time will always be the time when the interruption first occurred. If interruption time is not available, the time when the FAA is first made aware is to be used. All times shall be entered as UTC.
- x. **Report Period.** Report periods identifying the time interval of reporting may vary with the particular reporting system. Detailed information concerning each report period is contained in paragraph 200 of this order.
- y. **Reportable Facility.** Any commissioned facility, including reimbursable facilities, for which reporting of interruptions has been designated. Reportable facilities are those listed in the Facility, Service, and Equipment Profiles (FSEP) status code of D, E or G, and responsibility codes of A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, S, T, U, V, W, X, Y, Z. Reportable facility types are identified in paragraph 301 of this order. Additionally, facilities that are status code C and have a responsibility code listed above, are reportable when in Operation Readiness Demonstration (ORD) status.
- z. **Reportable Service.** Any service for which reporting of interruptions has been designated. All reportable services shall be entered in the FSEP using the status codes Y or Z and the responsibility code which would be indicative of the remote site of the service. Reportable services provided to and/or from a military facility shall have a responsibility code of either I, R, or 9. Reportable service types are identified in paragraph 301b. of this order.
- aa. **Restoration.** Restoration includes all activities required to return a service/facility to operational status following a facility or service interruption.

bb. **Scheduled Interruption.** A term used to indicate that a facility or service interruption was coordinated for a predetermined period of time with prior approval from the facilities manager, assistant facilities manager, or other appropriate AT personnel. This coordination is required for the following maintenance activities listed in subparagraphs below. Also, scheduled interruptions can only be terminated by facility/service restoration, initiating unscheduled outages, or by decommissioning. If during a scheduled interruption, an out-of-tolerance condition is discovered and it becomes obvious that an extension will be required to complete the facility restoration, AT should be notified as early as possible and a request made to extend the scheduled interruption. If the request is denied and the interruption continues past the original scheduled restoration time, the scheduled interruption will end and an unscheduled interruption will begin at the end of the scheduled interruption time. In cases where the request is granted, but restoration activities close prior to the end of the approved extension (for example, parts must be ordered, administrative decision to no longer work on it because of other priorities) the scheduled outage will end at the time the facility restoration work is halted and an unscheduled outage will begin.

(1) **Scheduled Corrective.** An interruption of a facility/service for required corrective maintenance. It is a planned action to correct a facility/service performance deterioration and applies only when the facility/service is operating within hardware/software operational requirements (tolerances/limits) prior to the scheduled interruption.

(2) **Scheduled Routine.** An interruption of a facility/service for planned maintenance activities and includes activities such as:

- (a) Periodic maintenance per directive.
- (b) Planned hardware modifications, improvement, projects, and associated testing.
- (c) Software program updates and associated testing; i.e., new version/level, chart update, and national patch release.
- (d) Flight inspections.
- (e) Planned administrative; i.e., evaluations, military activities, certification exams, training, etc.

cc. **Service.** Service is the end product which is delivered to a user (AT personnel, the aviation public, or military) that results from an appropriate combination of systems, subsystems, equipment, and facilities. Pictorial diagrams of the interrelated facilities and services are provided in Appendix 3, Summary of NASPAS Performance Reports. Two examples are:

(1) A chain of facilities consisting of an Air Route Surveillance Radar (ARSR), Common Digitizer (CD), Radar Microwave Link Terminals/Radio Communications Link Terminals (RMLT/RCLT), Radar Microwave Link Repeater/Radio Communications Link Repeater (RMLR/RCLR), and associated Air Route Traffic Control Center (ARTCC) equipment provides AT personnel with en route Radar Digitized Data (RDAT).

(2) A Remote Tower Radar Display Service (RTRDS) is the combination of an Airport Surveillance Radar (ASR), Air Traffic Control Radar Beacon (ATCRB), transmission media, Bright Radar Indicator Tower Equipment (BRITE), and associated terminal equipment to provide radar information to AT personnel at satellite tower locations.

dd. **Service Fault Location.** The location of the inoperable segment of a chain of facilities and/or equipment causing a service interruption. Three service fault locations are designated as follows:

(1) **Control Site.** The control site (service fault location "C"), such as an airport traffic control tower (ATCT), is the controlling point of the service. The control site encompasses all necessary control, decoding, display, or other ancillary equipment associated with the control point of the particular service, exclusive of link terminals.

(2) **Line or Link.** That portion in a chain of facilities which provides the point-to-point media transmission between the control and remote site. Included in this portion are FAA (service fault location "F") or leased telephone company (TELCO) (service fault location "T") transmission lines, link terminals, modems, and link repeaters. All code 61 and 81 interruptions shall have a service fault "T".

(3) **Remote Site.** A remote site (service fault location "S"), such as a remote center air/ground communication (RCAG) facility, is the remote end of a service. A remote site encompasses all transmitting, receiving, control, and ancillary equipment associated with the remote end of a particular service, exclusive of link terminals. In the case of Flight Data Entry and Printout (FDAT) and Interfacility Data Services (IDAT), the terminal facility (ATCT, and/or Terminal Radar Approach Control (TRACON) facility) is considered the remote site for the ARTCC. For the RTRDS, the remote tower alphanumeric display service (RTADS), and in some cases, the Terminal Radar (TRAD) and Terminal Secondary Radar (TSEC), the remote site will include the equipment from the radar site up to the last point of transmission to the satellite tower location, exclusive of link terminals.

ee. **Shall.** SHALL means that an action is mandatory.

ff. **Shall Not.** SHALL NOT means that an action is prohibited.

gg. **Should.** SHOULD means that an action is desirable but not mandatory.

hh. **Software.** Software is a computer-oriented trade term which includes all instructions, diagrams, and step-by-step routines, exclusive of the hardware, required to utilize computer capabilities. Software outages shall be reported against service only.

ii. **Supplemental Cause Code.** The supplemental cause code is a separate field from the standard cause code. It is a single digit field that, used in conjunction with the standard cause code, will more accurately identify the cause of a facility or service interruption.

jj. **Total Scheduled Interruption Time.** The following definitions of total scheduled interruption time shall be used.

(1) **Facility Reporting.** Time begins when the facility is released by appropriate personnel (AT, military) and ends when the facility is restored by appropriate AF personnel.

(2) **Service Reporting.** Time begins when the service is released by appropriate personnel (AT, military) and ends when the service is restored and accepted by the user (AT, military, etc.) regardless of whether the service is to be used at the time of acceptance. For example, an en route communication (ECOM) frequency that was restored and AT accepted the service but did not require its use is considered to be back in operation.

kk. **Total Unscheduled Interruption Time.** The following definitions of total unscheduled interruption time shall be used. When applicable, the time from a computer printout may be used for the start time of an unscheduled interruption.

(1) **Facility Reporting.** Time begins with initial FAA awareness of the interruption and ends when the facility is restored by appropriate AF personnel.

(2) **Service Reporting.** Time begins with initial FAA awareness of the interruption and ends when the service is restored and accepted by the user (AT, military, etc.) regardless of whether the service is to be used at the time of acceptance.

ll. **Umbrella Service.** A hierarchical service which supports numerous underlying facilities and services. Normally, when an interrupted umbrella service is reported, interruption reports are not required for the underlying services if the umbrella service is reported as a full interruption. Each umbrella service is identified in Chapter 2 of this order.

Umbrella Service

AWPS
CFAD
FSSPS
NADS
VSCSS

Service Under the Umbrella

AWPTE/AWPTW
FDAT/IDAT
FSSAS
NAMS
ECOM

mm. **Unmonitored Facility.** A facility that has no remote monitoring capabilities.

nn. **Unscheduled Interruption.** An unscheduled interruption is:

(1) Any unanticipated interruption regardless of duration of a facility or service.

(2) Any out-of-tolerance/out-of-limit condition which results in the removal of a facility/service from the NAS.

(3) A facility that is reported out-of-tolerance by flight inspection.

(4) A hardware out-of-tolerance/out-of-limit condition which results from an equipment failure and/or malfunction and which prevents the restoration of a facility/service following a scheduled interruption. For this situation, the unscheduled interruption shall start immediately following the end of the original scheduled shutdown or the end of any approved extension which is granted to a scheduled shutdown.

(5) A software out-of-tolerance (specification) condition which prevents the restoration of a facility/service following a scheduled interruption. The unscheduled interruption shall start immediately following the end of the original scheduled shutdown or the end of any approved extension(s).

oo. **User.** AT personnel, military personnel, or the aviation public.

pp. **Will.** WILL indicates a presumption that action is to be taken.

107. FORMS AND REPORTS.

a. **Form Listing.** FAA Form 6040-3, Facility and Service Outage Report. (RIS: AF 6040-48). Refer to NSN 0052-00-687-4001 when ordering FAA Form 6040-3. The unit of issue is a pad (50 sheets). FAA Form 6040-3 shall still be required until such time that paper logs are gone and the site has fully implemented automated logging capabilities

b. **Reports Listings.** Information relating to description and format, preparation responsibility, source of data, and frequency of the following reports can be found in Appendix 3, Summary of NASPAS Performance Reports. Chapter 5, Analysis of Facility/Service Performance, supports the requirements of these reports.

(1) Facility and Service Detail Listing (RIS: AF 6040-12).

(2) Facility and Service Outage Report by Location Identifier (RIS: AF 6040-19).

(3) Air Navigation and Air Traffic Control Facility Performance and Availability (RIS: AF 6040-20).

(4) Facility and Service Outage Report Summary Data by Region/ARTCC (RIS: AF 6040-21).

(5) Facility and Service Outage Report - Regional Rank Order Listing (RIS: AF 6040-41A).

(6) Facility and Service Outage Report, ARTCC Associated Facilities and Services (RIS: AF 6040-50).

108. - 111. Reserved.

SECTION 2. SYSTEM DESCRIPTION

112. REPORTING REQUIREMENTS. This directive serves as a primary source of reporting requirements and procedures and describes Office of Air Traffic Operations (ATO), Director of Airway Facilities (AAF), and NAS Operations Program (AOP) responsibilities at all organizational levels for reporting and monitoring the operating status of the NAS. Changes to, or any additional reporting requirements, are subject to the following conditions:

- a. Other reporting systems relating to performance of facilities in the NAS or the movement of air traffic are prohibited, unless coordinated with ATO and AOP and included as part of the Maintenance Management System (MMS).
- b. Headquarters imposed reporting requirements or any changes to existing requirements contained in this order cannot be implemented and included as part of NAPRS without prior concurrence of ATO and AOP.
- c. Regional, SMO, or facility imposed reporting requirements and/or increased frequency of reporting is at the discretion of each region, SMO, or facility. However, all requirements and procedures shall be included as a supplement to this order and shall be coordinated with AOP and ATO. Additionally, coordination will be required with the regional Management Systems, Resource Management, Budget, and Financial and Management Resource divisions should regional, SMO, or facility imposed reporting requirements indicate the need for regional data processing resources.
- d. Regional supplements (e.g., orders, letters, notices) regarding clarification of information contained in this order shall be coordinated with AOP and ATO prior to implementation.

113. SCOPE. This order affects virtually all aspects of FAA. Specific requirements and responsibilities of the individual offices are spelled out in the body of this order.

114.-121. Reserved.

SECTION 3. RESPONSIBILITIES

122. RESPONSIBILITIES OF AIR TRAFFIC OPERATIONS (ATO). ATO is responsible for:

- a. Defining additional reporting requirements or criteria for NAS performance reports that best serve the Administrator or the Administrator's staff. These shall be coordinated with AOP prior to implementation if amendments to this order would be required.
- b. Providing direction to all regional AT divisions to ensure that reporting procedures and content of reports are consistent and adequate among the regions.

123. RESPONSIBILITIES OF AIR TRAFFIC OPERATIONS (ATO) AND NAS OPERATIONS PROGRAM (AOP). ATO and AOP are jointly responsible for:

- a. Providing guidance to the regional offices for defining national facility and service interruption reporting criteria.
- b. Taking appropriate action to ensure that reporting procedures are consistent among all regions.
- c. Analyzing service performance.

124. RESPONSIBILITIES OF NAS OPERATIONS PROGRAM (AOP). AOP is responsible for:

- a. Providing for overall program management of NAPRS. The office with primary responsibility for this order is AOP-200.
- b. Daily production of NAS performance report and other materials for briefing appropriate managers and staff on the status of the NAS.
- c. Updating the national interruption data bases residing on the headquarters Maintenance Processor Subsystem (MPS). The office of primary responsibility is AOP-200.
- d. Analyzing overall facility/service performance. The office of primary responsibility is AOP-200.
- e. Providing guidance to the regional AF divisions to ensure that reporting procedures are consistent among all regions. The office of primary responsibility is AOP-200.

125. RESPONSIBILITIES OF THE REGIONAL AIR TRAFFIC (AT) AND AIRWAY FACILITIES (AF) DIVISIONS. The regional AT and AF division are jointly responsible for:

- a. Ensuring that reporting procedures are consistently followed throughout the region and providing necessary feedback to AF and AT field offices.
- b. Analyzing regional facility/service performance.
- c. Establishing a facility/service improvement plan based upon analysis of the performance data.
- d. Ensuring that areas of joint responsibility and compliance with requirements as specified within this order are strictly adhered to at all facilities throughout the region.

126. RESPONSIBILITIES OF THE REGIONAL AIRWAY FACILITIES (AF) DIVISIONS. The regional AF divisions are responsible for:

- a. Establishing a system for analyzing the performance of regional facilities and services.
- b. Designating a NAPRS point-of-contact who is responsible for coordinating all interruption data within the region, and interfacing with AOP-200.
- c. Ensuring that facility and service reporting procedures are consistently followed throughout the region and providing necessary feedback to AF SMOs.
- d. Ensuring that all interruption data is processed and transmitted for the inclusion into the national data base update.

127. RESPONSIBILITIES OF THE REGIONAL AIR TRAFFIC (AT) DIVISIONS. Regional AT divisions are responsible for providing guidance and any necessary assistance to AT facilities to ensure that all reporting procedures and report content are consistent and adequate among facilities in the regions.

128. RESPONSIBILITIES OF THE AIR TRAFFIC (AT) FACILITY MANAGERS AT ALL AIR TRAFFIC CONTROL (ATC) FACILITIES. AT facility managers at all ATC facilities are responsible for establishing procedures for:

- a. Ensuring that all interruptions are promptly reported to the appropriate AF personnel and identifying those interruptions which contributed to or caused air traffic delays.
- b. Ensuring that equipment-caused delay reports have been coordinated with and agreed to by both AT and AF, and that they are entered into OPSNET.
- c. Providing information to appropriate AF personnel on changes in category II/III runway sites.
- d. Ensuring that all appropriate personnel are aware of and comply with requirements as specified in this order.
- e. Providing final acceptance for the use/usability of a service, when notified of availability for use by appropriate AF personnel.

129. RESPONSIBILITIES OF THE AF SYSTEM MANAGEMENT OFFICE (SMO) AND SYSTEM SERVICE CENTER (SSC) MANAGERS. The AF SMO/SSC managers are responsible for:

- a. Ensuring that interruption reports for facilities and services within their jurisdiction have been coordinated with and agreed to by both AT and AF, and entered into Maintenance Management System (MMS) via Log Interrupt Reports (LIR) screens.
- b. Ensuring that interruptions that are reportable, as defined in this order, are entered into MMS as soon as possible after the start of that reportable occurrence.
- c. Ensuring that any corrections and/or added information to previously reported interruptions are entered as soon as noted.

d. Ensuring that facility and service reporting procedures are consistently followed throughout the SMO and providing necessary feedback to SMO/SSC offices.

e. Ensuring that all interruption data are reviewed for accuracy and completeness prior to the execution of the monthly national data base update. This should include weekly execution and reconciliation of the MMS Facility/Service Outage reports (R60403).

f. Formalizing the review process in accordance with current orders and guidelines.

130.-199. **Reserved.**

CHAPTER 2. FACILITY AND SERVICE REPORTING

SECTION 1. GENERAL REPORTING REQUIREMENTS

200. **INTRODUCTION.** This section contains general requirements for reporting facility and service interruptions and defines the reporting periods for both. Reportable facility and service types are identified in paragraphs 301 of this order. (See Appendix 2, Examples of Reporting Incidents, of this order for examples of reporting incidents.)

a. **Timely Reporting.** Interruptions that are reportable are required to be entered into MMS as close as possible to the start of the reportable occurrence.

b. **Reporting Times.** All times shall be entered as UTC.

c. **Reporting Transmission.** All interruptions are required to be entered into MMS. Interruptions are automatically transferred to the headquarters MPS shortly after they are entered into MMS at each MPS.

d. **Reportable Interruptions.** All interruptions, 1 minute or more in duration, to facilities and services listed in paragraphs 301a and 301b shall be reported. Facilities and services identified with an (#) shall report all unscheduled interruptions regardless of duration.

e. **Interruption Data Accuracy/Completeness.** All interruptions shall be reviewed for accuracy consistent with established editing criteria and this order. Information on interruptions shall be of sufficient quality and quantity to ensure that a complete understanding of the interruption may be acquired.

f. **Facility Performance Reporting.** Facility performance is measured by recording individual facility interruptions. For example, the interruption of an ARSR at a long-range radar site would require an ARSR facility report. No report would be necessary for an ATRCB or CD even though a loss of signal input was experienced by these facilities. However, the appropriate services provided by these facilities would be reported as a related interruption. (See Appendix 1, Reference Guides, and Appendix 2, Examples of Reporting Incidents.)

g. **Service Performance Reporting.** Service performance is measured in terms of the END PRODUCT from a combination of facilities and/or equipment as opposed to individual facility performance. For example, the RDAT may include the net performance result of the ARSR, CD, RCL, and ancillary equipment at the ARTCC and radar sites. The loss of any portion of this chain of facilities and equipment may result in an RDAT service interruption. This includes military services.

h. **Service Location Identifiers.** General instructions for service location identifiers are contained in Order 6000.5, Facilities, Service, and Equipment Profile (FSEP). Specific instructions regarding service location identifiers, the use of suffixes, and identification of control and remote fields in the FSEP are provided in the appropriate paragraphs of this chapter where service reporting procedures are addressed. In addition to these instructions, the city and state location for reportable services shall always be the location of the remote field identifier used in the FSEP.

i. **Corrections and/or Added Information.** Any action that requires a change to a previously reported interruption shall be coordinated with the responsible Systems Management Office (SMO) manager or designee, as appropriate.

(1). **Reporting Period.** Defined as the calendar month that the outage occurs in, from the 1st day of the month until the last day of the same month.

(2). **Timely Corrections.** Corrections made or information added to LIRs shall be made prior to the cut-off date. (Cut-off date is 10 days after the end of the reporting period.)

(3). **Late Corrections.** Due to software design, changes to LIR data after the 10th day of the month following a reporting period cannot be accepted into the NODB without direct intervention by AOP-200. Notification of late changes must be submitted to AOP-200, via Memorandum from Division Manager, AXX-400, through the regional NAPRS coordinator.

j. **Multiple Facility/Service Entries.** The basic design of MMS will allow those facility/service interruptions that are associated or related to the facility/service being reported to be identified in the same LIR. All problems encountered during recovery of related/associated services shall be identified. (See the MMS user's guide, Appendix 1, Reference Guides, and Appendix 2, Examples of Reporting Incidents, for logging procedures for associated/related entries.)

k. **Report content.** Content and format instructions for reporting facility and service interruptions are found in the MMS user's guide.

l. **Facility, Service, and Equipment Profile (FSEP).** Procedures for updating the FSEP are found in Order 6000.5. Outage reports are reconciled with the FSEP records on a monthly basis, therefore, any update to the FSEP must be completed by the last working day of the reporting month. FSEP records, as they appear on the last day of the month, are reflective for the entire month's period.

201. EVENTS TO BE REPORTED.

a. **Commissioning/Decommissioning of NAS Facilities.** The commissioning or decommissioning of a facility/service that is NAPRS reportable shall be reported using the Facility Commissioning/Decommissioning (LFC) report in MMS. These reports shall be identified as nationally reportable (reportability code "N" in MMS). In addition, the following entries shall be made to the FSEP for commissioned or decommissioned facilities:

(1) **Newly Commissioned Facilities and Services.** In concert with Order 6000.5, newly commissioned facilities and services shall be reported immediately upon commissioning. Reportable facilities and services must be commissioned before interruption reporting results can be accepted into NAPRS. The FSEP shall be updated in a timely manner even if telephone coordination between the field and regional office is required.

(2) **Decommissioned Facilities and Services.** Facilities and/or services shall be reportable through the date of decommissioning. The facility/service shall remain in the FSEP in a commissioned status for 1 month to allow the updating of the national outage data base.

b. **Interruptions to Facilities or Services.** Facility and/or service interruptions that meet criteria of this directive shall be reported. The duration of the LIR event shall be an indication of the entire time the facility or service was unavailable. The interruption time shall continue, regardless of use of a back-up, until operation of the primary facility is restored.

c. **Associated Facility/Service Interruptions.** An interruption to a facility/service that actually failed or was initially interrupted (see Appendix 1, Reference Guides). A facility unable to perform its intended mission as a result of a failure of a nonreportable service related component (control, line/link, or software) or a personnel error external to the site shall result in an interruption report for the service only if a service exists. A loss of availability of a facility that occurs internal to the site, including personnel errors, shall result in an interruption report for the facility and the affected services. An associated facility/service interruption will have the same cause code as the primary facility or service interruption entered on the NAPRS/MMS report.

d. **Related Facility/Service Interruptions.** A facility or service interruption which is a direct result of an interruption of another facility or service shall use the related facility interruption definition (see Appendix 1, Reference Guides). It will have the related cause code (68/88) entered on the NAPRS/MMS.

e. **Facility/Service Available but Not in Use.** If the restoration times for the facility and service are different, both times shall be identified in the report.

f. **Continued Use of Deteriorated but Usable Facilities/Services.** It is recognized that AT officials may choose to continue use of deteriorated but usable facilities/services (see paragraph 106j of this order). These incidents shall be reported as unscheduled service interruptions when AT releases the service. The time between initial awareness and the time of release may be reported as a reduced service report. (See paragraph 311 of this order for reduced facility/service operation reporting requirements.)

g. **Military Service Interruptions.** All services provided to the military shall be reported. Services provided to FAA from military-owned/maintained facilities shall be reportable.

h. **Nonoperational Facility/Service Interruptions.** Unless specified otherwise, all interruptions shall be reported even though the facility is not being called upon for operational use. Terminal (tower) locations which provide less than 24-hour service shall not report the published downtime as a scheduled interruption. If maintenance requiring downtime is performed, or a facility/service is made unavailable, or a loss of service occurs during the published downtime, a scheduled or unscheduled interruption, as appropriate, shall be reported. Some examples of types to be reported are as follows:

(1) An approach lighting system (ALS) that is shut down for routine maintenance during the daylight hours.

(2) A second instrument landing system (ILS) that, because of wind direction, is not in operational use but is shutdown for equipment modification or maintenance.

(3) An ARTS II location has published hours of operation from 0600 to 2200 and is closed after 2200 until the next morning. Unscheduled and scheduled interruptions that occur during the hours of 2200-0600 are reportable.

i. **Unmonitored Facility Interruptions.** An unscheduled interruption shall be reported with the appropriate code whenever restoration is made to an unmonitored facility. The actual restoration time shall be used if the total interruption time cannot be determined (air traffic, pilot reports (PIREPS), etc.). A minimum interruption time of 1 minute shall be used if restoration is less than 1 minute. For example, a specialist found an outer marker shut down upon arrival for routine maintenance. After restoration, no reason could be established as to why it failed or what time the original shutdown occurred. The marker has no remote monitoring feature, and since the cause and time of interruption could not be determined, a cause code 87 would be used with the restoration time required to restore the facility.

j. **Interruption and Notices to Airmen (NOTAM) Relationships.** Although a relationship may exist between interruptions and NOTAMs, Airmen's Advisories (AIRAD), etc., there is no mandatory requirement that each NOTAM be accompanied by a corresponding report of interruption or that NOTAM times correspond to interruption time.

k. **Locally Bypassed Monitors.** An interruption report shall be required whenever a facility's automatic shutdown capability is not maintained and the facility is unattended. In most cases, the loss of this capability requires decertification and removal from the NAS with AT concurrence.

l. **EPROM Changes.** When a NAS system requires an EPROM change that is directed by an EEM or other authority that produces a modification to the system, a code 62 shall be utilized against the facility. (Example code 62 - EPROM map change for XYZ BRITE.) When an EPROM change is a periodic or requested change, that does not produce a modification to the system, a code 64 shall be used. (Example code 64 - DOD operating system change for XYZ ARSR-4.)

202. **MAJOR EQUIPMENT SWAPOUT.** Major equipment swapout is defined as a physical change or replacement to a commissioned facility which requires a change to the model number in the FSEP. There are times when a commissioned facility (which has an FSEP status code of "D") and its replacement facility (which has a FSEP status code of "C") may coexist. During this period, FSEP modifications may be required for the following examples:

a. **FSEP Entries for Normal Operation.** XYZ-ASR and XYZ-TRAD are the existing commissioned facility and service. The FSEP entries will show status codes of "D" and "Z" respectively. A collocated ASR test facility would have a suffix added to the basic identifier (XYZA-ASR/TRAD) and an FSEP status code of "C".

b. **FSEP Entries for Test Operation.** When a test facility is being used by AT to assess its performance, appropriate service(s) must be entered into the FSEP with a status code "Y". A suffix to the basic identifier of the facility and service(s) must be used. For example an XYZA-TRAD entry is entered into the FSEP with a status code "Y". The FSEP will now contain entries for both the test facility and its service (XYZA-ASR/TRAD, with status codes "C" and "Y" respectively).

c. **Parallel Operation.** During parallel operation, both commissioned and test facilities and services are in the FSEP. The commissioned facility/service(s) shall be available for use at all times. When the test facility/service(s) is in operational readiness demonstration (ORD), its functions are reportable. If the commissioned facility/service is not immediately available for use (without AF intervention), it shall be reported out of service with the appropriate cause codes.

d. **Full Acceptance of Test Facility.** When the test facility is fully accepted into the NAS, the FSEP record for the commissioned facility/service(s): e.g., XYZ-ASR/TRAD, shall be modified to reflect the new model number and swapout date. The test facility and service(s) FSEP records must be removed from the FSEP: e.g., XYZA-ASR/TRAD.

NOTE: Original status date and original facility type/ident shall be maintained in the FSEP throughout the swapout period.

203. **MOBILE FACILITIES.** Mobile facilities shall have a permanent identifier beginning with "Q" followed by two numeric characters (i.e., Q99). When the mobile facility is not in use, the FSEP status code shall be "G", and the location, region, and cost center information will reflect the storage location.

a. **Activation for Operational Use.** Four FSEP actions are required when a mobile facility is activated. Both the mobile facility and the replaced facility will require two FSEP actions each, examples are follows:

(1) **Mobile Facility/Associated Services.** The FSEP status code of the mobile facility must be changed to "D". The location, region, and cost center information will be changed to reflect that of the in-use location. Appropriate service shall be established with the status code "Z" entered into the FSEP.

(2) **Replaced Facility/Associated Services.** The FSEP status code of the replaced facility must be changed to "G". Appropriate FSEP entries are required to remove the associated services.

b. **Deactivation/Preparation for Storage.** The following FSEP actions are required when a mobile facility is removed from service. The actions required for the mobile facility and the replacement facility are as follows:

(1) **Mobile Facility/Associated Services.** The FSEP status code should be changed to "G" to indicate the mobile facility is deactivated. The location, region, and cost center information shall be changed to indicate that of the storage location. Associated service must be removed from the FSEP.

(2) **Replacement Facility/Associated Services.** The FSEP status code must be changed to "D". The associated services should be established in the FSEP.

204. **FACILITY, SERVICE, AND EQUIPMENT PROFILE (FSEP) STATUS CODES.** NAPRS reporting requirements have been established for facilities and services with FSEP status code C (when in ORD), D, E, F, Y, and Z. Status codes E, F, G, Y, and Z were created to support NAPRS requirements. A commissioned facility's status code may only be changed to E, F, or G if the conditions described below will be met. Detailed usage of E, F, G, Y, and Z will only be defined in this directive.

a. **E - Commissioned/partial service.** Facilities designed at the time of commissioning to provide more than one capability/functional service but which have one or more functions unavailable.

NOTE: Status code E should be utilized when commissioning a facility not utilizing all design capabilities and functional service. Example: A newly commissioned TACAN with unusable azimuth. After commissioning, any degradation in service capability shall be reported as a reduced facility/service and not status code E.

b. **F - Commissioned/temporarily out-of-service.** Facilities out-of-service for facilities that have been destroyed by natural disasters, or other similar long-term shutdowns due either to the facility or to its surroundings or purpose. (See Paragraph 206 for guidance.)

c. **G - Commissioned/standby.** Facilities in a caretaker or standby status which are operationally ready but are not active because of administrative decision (including mobile facilities) Refer to paragraph 203 for specific instructions for using this code for mobile facilities.

d. **Y - Pseudo-service type/test.** A pseudo facility is an activity not classified as an operating type facility which has been established to capture the effectiveness of specified aeronautical services. These services are associated with facilities in FSEP status code C (ORD status only).

e. **Z - Pseudo-service type/commissioned.** A pseudo facility is an activity not classified as an operating type facility which has been established to capture the effectiveness of specified aeronautical services.

205. REPORTABLE CAUSE CODES. Consistency in assigning appropriate cause codes to all interruptions is necessary in order to provide accurate data for future analyses. The following guidelines shall be used:

a. Only one cause code shall be used for the entire duration of a scheduled or unscheduled interruption and this shall be the true cause or reason for the interruption. If an unscheduled incident initially appears to be hardware but is later found to be software, cause code 86 would be used since the true cause of the interruption was software. When two or more scheduled activities occur simultaneously, report the principal activity under the proper cause code and explain in the remarks the activities that were performed. If a scheduled interruption is followed by an unscheduled interruption, both shall be reported separately and explained under remarks. An unscheduled interruption shall not be terminated until the facility/service is returned to service or decommissioned.

b. All codes, especially cause code 87, shall be changed to the appropriate code whenever the true cause for the unscheduled interruption is determined. This will require procedures for follow-up investigation and review by the appropriate personnel together with updating the existing data in a timely manner. Corrections to previously reported and closed interruptions shall be made, but require coordination with appropriate personnel.

c. The following cause codes, with the addition of supplemental cause codes, shall be used to most closely describe the reason for the facility or service interruption:

NOTE: Supplemental cause code shall be entered on the LIR in the field identified as "SC".

(1) **Scheduled Cause Codes:**

Code	Description
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60	Periodic Maintenance (PM). An interruption of a facility or service for planned maintenance activities. This includes performance checks, adjustments, calibration, cleaning, and painting. This cause code shall be used for maintenance to FAA lines (all types), electronics systems/components, or plants and structures. This does not include periodic software activities (See cause code 66). (See also Chapter 4 for Facility Power and Support Systems reporting requirements.)
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Supplemental Cause Codes:

0 Periodic Maintenance
F Facility Power and Support Systems

61	Non-FAA Lines/Circuits. An interruption of a control, communication, or data transmission line (TELCO, military, FAA scheduled line runs, etc.)
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Supplemental Cause Codes:

0 Equipment
1 Line/Circuit
2 Satellite
3 Power
4 Military

62	Improvements. An interruption for relocation, replacement, modification, improvements (including military), special projects and construction at or near the facility location. This code includes firmware changes which are issued as modifications with an AFP number. (See also Chapter 4 for Facility Power and Support Systems reporting requirements.)
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Supplemental Cause Codes:

0 Modification
1 Improvement (an interruption of 14 days or less)
2 Relocation (an interruption of 14 days or less)
3 Long Term Improvement/Relocation
4 Construction
F Facility Power and Support Systems

- 63 **Flight Inspection.** An interruption for airborne inspection of the radiated characteristics of a facility by flight inspection personnel.

Supplemental Cause Codes:

- 0 Scheduled
- 1 Post Aircraft Accident
- 2 Special

- 64 **Administrative.** A facility/service interruption because of administrative requirements such as special tests, Department of Defense activities, formal facility inspections, training, performance/certification examinations, and key site testing at en route and terminal automation facilities. (See also Chapter 4 for Facility Power and Support Systems reporting requirements.)

Supplemental Cause Codes:

- 0 Special Tests
- 1 DOD Activities
- 2 Facility Inspections
- 3 Training
- 4 Performance Examinations
- 5 Key Site Testing
- 6 Administrative
- F Facility Power and Support Systems

- 65 **Corrective Maintenance.** A planned action to correct a deterioration of facility/service performance. This code applies only when facilities/services are operating within specified requirements (operational) prior to the corrective activity and includes troubleshooting and snow removal, grass cutting, etc. (See also Chapter 4 for Facility Power and Support Systems reporting requirements.)

Supplemental Cause Codes:

- 0 Troubleshooting/Repair
- 1 Snow/Ice Removal
- 2 Vegetation Control
- 9 Other
- F Facility Power and Support Systems

- 66 **Software.** An interruption because of software or program activity. This includes operational program/patch testing and data base testing activities, or a planned action to correct a deterioration of service performance. This code applies to activities or actions to remove a patch from the system, add a local patch to the system, and to correct or improve the adapted data base. Use this code only when the software is operating within specifications prior to corrective activities.

Supplemental Cause Codes:

- 0 Testing

- 1 New Program/Database Load
- 2 Corrective Software Maintenance

67 **Reserved.**

68 **Related.** This code will be used when a facility or service fails to perform its intended function as a result of an interruption of another facility or service.

Supplemental Cause Codes:

- 0 Caused by a Facility Interruption
- 1 Caused by a Service Interruption

69 **Other.** This code will be used only if the interruption cannot be associated with any other scheduled code category.

Supplemental Cause Codes:

- 9 Other

(2) Unscheduled Cause Codes:

Code	Description
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80	Equipment. Any failure or malfunction of electronic or lighting systems (including firmware), FAA lines or links (all types), FAA electrical distribution systems or structure items which cause an interruption of the facility or service. (See also Chapter 4 for Facility Power and Support System reporting requirements.)
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Supplemental Cause Codes:

- 0 Antenna System
- 1 Transmission Line/Connector
- 2 Fuse/Circuit Breaker
- 3 Power Supply
- 4 Equipment Part Failure
- 5 FAA Control/Monitor Line
- 6 Physical Storage Medium of Software
- 7 Unable to Determine Cause (Equipment Only)
- 8 Intermittent Errors
- 9 Auto Reset
- F Facility Power and Support Systems

81	Non-FAA Lines/Circuits. An interruption caused by loss of control, communications, or data transmission, including degradation of performance, where repairs are required (TELCO, military, etc.). This code is to be used for TELCO personnel errors while working on leased circuits. It is also used when TELCO equipment is affected by a power failure and FAA equipment continues to perform its mission by use of standby power.
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Supplemental Cause Codes:

- 0 Equipment
- 1 Line/Circuit
- 2 Satellite
- 3 Power
- 4 Military
- 5 Cable Cut
- 6 Environmental Causes
- 7 Unknown
- 8 Personnel Error
- 9 Other

- 82 **Prime Power.** Any facility or service interruption caused by prime power services shall use this code. Power services may be commercial, FAA, military, or sponsor supplied. This code applies to all power related interruptions and includes fluctuations, surges, transients, or complete loss of power. Equipment failures (circuit breakers, printed circuit cards, associated switchgear, etc.) that occur as a direct result of prime power shall use this code. This code shall be used for all facility/service interruptions resulting from the loss of commercial power. (See also Chapter 4 for Facility Power and Support Systems reporting requirements.)

Supplemental Cause Codes:

F Facility Power and Support Systems

- 83 **Standby Power.** An interruption caused by loss of standby power when it is serving the facility as a back-up to the normal prime power, or a failure of standby powerplants, including associated standby power switchgear, to assume the load upon transfer. This includes fluctuations, surges, running out of fuel, battery discharge before commercial power is restored, and transients caused by standby power. For the purpose of reporting interruptions, standby powerplants, power switchgear, uninterruptible power source (UPS), power conditioning system (PCS), and batteries are considered standby power. Failures of equipment operating within tolerance that occur as a direct result of standby power shall use this code. This code shall be used for all facility/service interruptions resulting from loss of standby power. (See also Chapter 4 for Facility Power and Support Systems reporting requirements.)

Supplemental Cause Codes:

F Facility Power and Support Systems

- 84 **Interference Conditions.** Any condition, regardless of intensity, caused by atmospheric changes, or other factors which are detected by the equipment. Examples: false targets due to anomalous propagation; interference, regardless of length of time, sources, or severity, believed to be caused by military electronic countermeasures (ECM) operations; path fade; radio frequency interference (RFI), intentional interference; solar activity, temperature inversion; distortions of signal patterns caused by anomalous

condition. This code is not to be used to describe the loss of non-FAA (or leased) lines/circuits.

Supplemental Cause Codes:

- 0 Anomalous Propagation
- 1 ECM/ECCM/Chaff
- 2 Path Fade
- 3 RFI/Intentional Interference
- 4 Solar Activity
- 9 Other

- 85 **Nature/Weather Effects.** Transient environmental conditions which cause a facility/service interruption. Examples: snowdrifts affecting monitor operations, ice buildup on antennas, weather damage, and lightning.

Supplemental Cause Codes:

- 0 Snow
- 1 Ice
- 2 Wind/Tornado/Hurricane
- 3 Lightning Strike
- 4 Flood
- 5 Rain
- 6 Temperature Extremes/Variations
- 7 Birds/Animals/Insects
- 8 Earthquake/Volcanic event
- 9 Fire

- 86 **Software.** Unscheduled interruptions caused by operational or control software. This code should be used only if it is reasonably certain that software programming was the cause and will be used only in conjunction with service reporting.

Supplemental Cause Codes:

- 0 Operational Program Abort
- 1 Operational Program Hang
- 2 I/O Lockout
- 3 Monitor/Control Software
- 4 Other software problem
- 5 Instruction Set

- 87 **Unknown.** This code shall be used for those situations where the cause of the interruption is not specifically known or no logical explanation for the problem can be given. Do not use this code if it is reasonably certain that the problem is either equipment, software, weather, power, or commercial lines. The most likely cause of the interruption need not be known to make this determination. This code may be used in the interim period before the exact cause is known. Once a final determination has been made this cause code shall be changed. Some examples are:

(a) Trouble calls where the specialist arrives at the site and the facility is normal and no problem is found.

(b) A trouble call where the specialist arrives at the site and the facility is not operating normally, but returns to normal operation (self-corrected) prior to the start of troubleshooting.

Supplemental Cause Code:

0 Unknown

88 **Related.** This code shall be used when a facility or service fails to perform its intended function as a result of an interruption of another facility or service.

Supplemental Cause Codes:

0 Caused by a Facility Interruption

1 Caused by a Service Interruption

89 **Other.** This code shall be used only if the interruption cannot be associated with any other unscheduled cause code. Unscheduled interruptions directly caused by AOS restoration activities, program implementation or key site testing should be coded 89. All personnel errors, with the exception of those related to leased circuits, shall be entered using this code.

Supplemental Cause Codes:

0 AOS Restoration Activities

1 Key Site Testing

2 Program Implementation

3 Vandalism

4 Non-FAA Owned Facility Caused

5 Personnel Error AF

6 Personnel Error AT

7 Personnel Error Other FAA

8 Personnel Error NON-FAA

9 Other

F Facility Power and Support Systems

206. STATUS CODE "F", TEMPORARILY OUT-OF-SERVICE EVALUATION CRITERIA.

In the past, there have been outages on equipment for extended periods of time, that have been due to circumstances beyond anyone's control. Providing relief for these events, the following criteria has been established. This criteria must be strictly adhered to before any facility can be placed into status "F". Status code "F" interruptions will not be captured in the National Outage Data Base (NODB).

a. An evaluation criteria shall be made in writing, by the AXX-400 manager or designee, and forwarded to Headquarters, with the facility and ident of the equipment clearly stated in the request. This request shall include:

- (1) Qualifying event and description of the extenuating circumstances surrounding the event.
- (2) Affected facility or facilities and their ident(s). Affected service or services and their ident(s).
- (3) A detailed explanation delineating the non-operation of the equipment.
- (4) The impact of the operation of the NAS due to the loss of the equipment.
- (5) What action is being taken to restore the equipment.
- (6) Estimation of restoration time (only events that are forecasted to last greater than 30 days shall be processed).
- (7) Event shall be closed out, in writing, by the AXX-400 manager or designee when the facility has been restored. Notice of closure of event shall also be forwarded to Headquarters, within 5 days, for completion of processing.

b. The above criteria will be evaluated on a case-by-case basis. Headquarters shall be notified of the event as soon as possible after the start for the status code change date.

207.-209. Reserved.

SECTION 2. SPECIFIC REPORTING REQUIREMENTS

210. CATEGORIES OF FACILITIES AND SERVICES. All facilities and services are placed in groups according to their type, e.g., Automation, Communication, Surveillance etc. The following is a list of these categories (including paragraph number for reference):

- a. Automation Facilities/Services, paragraph 211 (CCCH, DARC, ARTS, TARS, FDAT, etc.)
- b. Communication Facilities/Services, paragraph 212 (RCAG, ECOM, RCO, etc.)
- c. Navigation and Landing Facilities/Services, paragraph 213 (GS, TACR, NDB, etc.)
- d. Surveillance Facilities/Services, paragraph 214 (ASR, BRITE, MODES, TRAD, etc.)
- e. Weather Facilities/Services, paragraph 215 (AWP, NXRAD, TDWR, etc.)
- f. Power Facility and Service Reporting, paragraph 216 (PCS, PCSS, SX)

211. AUTOMATION REPORTING. Reporting of all automation interruptions requires joint AT and AF coordination and agreement prior to entering the data into MMS.

a. **En Route Automation Reporting.** All interruptions shall be reportable for a 24-hour day regardless of published nonoperational hours. Unscheduled software interruption (operational program aborts, etc.) are not to be reported against the facility (CCCH, DCCR, CDC, DARC, etc.) but shall be reported under the appropriate service (CFAD, CRAD, DRAD, etc.)

(1) **Central Computer Complex Host (CCCH), Computer Display Channel (CDC), Composite Flight Data Processing Service (CFAD), Composite Radar Data Processing Service (CRAD), Display Channel Complex Rehost (DCCR), Display System Replacement (DSR), Flight Data Input/Output Center (FDIOC) Reporting.**

(a) **CCCH Reporting.** The CCCH facility processes flight data and radar data at an ARTCC. A CCCH facility interruption is defined as a loss of the CCCH equipment's capability to fully process all of the flight data and/or radar data required by the operational program. All CCCH-caused interruptions and startovers are to be reported regardless of whether a service interruption resulted. For NAPRS reporting purposes, the peripheral adapter module replacement items (PAMRI) are considered elements of the CCCH facility.

(b) **CDC Reporting.** The CDC (at selected ARTCC's) facility processes the radar display data provided by the associated CCCH facility. A CDC interruption is defined as a loss of the system's capability to fully process and display the required data. All CDC-caused interruptions and startovers are to be reported regardless of whether a service interruption resulted.

(c) **CFAD Reporting.** CFAD service covers all the flight data processing (FDP) capability within an ARTCC. A CFAD service interruption is defined as the loss of operationally acceptable FDP capability within the ARTCC. CFAD is considered an umbrella service. Individual Interfacility Data Service (IDAT) and Flight Data Entry and Printout Service (FDAT) reports are not required when a full CFAD interruption is reported. A full CFAD interruption will generate a full related CRAD interruption.

(d) **CRAD Reporting.** CRAD service is the processing and display of Radar Data Processing (RDP) from all radars serving the ARTCC. A CRAD service interruption is defined as the loss of operationally acceptable digitized radar data from the CCCH or CDC/DCCR/DSR systems regardless of cause. A CRAD service interruption shall be reported even though DARC is serving as a primary system for RDP (See DARC reporting paragraph 211a(2)(a) of this order).

(e) **DCCR Reporting.** The DCCR (at selected ARTCC's) facility processes the radar display data provided by the associated CCCH facility. A DCCR interruption is defined as a loss of the system's capability to fully process and display the required data. All DCCR-caused interruptions and startovers are to be reported regardless of whether a service interruption resulted.

(f) **Display System Replacement (DSR) Reporting.** The DSR HOST/DARC facility distributes and processes radar display data provided by the associated CCCH. A DSR interruption is defined as the loss of the DSR system capability to fully distribute, process, and display the HOST/DARC data.

(g) **FDIOC Reporting.** FDIOC provides an interface between an air traffic controller and the ARTCC computer. A full FDIOC interruption is defined as the complete loss of flight data from both the Printer Control Unit (PCU) and the Central Control Unit (CCU). A complete failure of this system shall result in full FDAT service interruptions and may have impact on AT resulting in a CFAD reduced facility/service interruption.

(2) Direct Access Radar Channel (DARC), DARC Radar Data Processing Service (DRAD) Reporting.

(a) **DARC Reporting.** The DARC facility processes the radar data provided from remote sites, completely bypassing the CCCH and CDC/DCCR facilities, but is fed to the DSR for processing and display. A DARC interruption is defined as a loss of the DARC systems capability to fully process and display the required data. All DARC-caused interruptions and startovers are to be reported regardless of whether a service interruption resulted. Software related DARC interruptions shall be reported as an interruption to the DRAD service.

(b) **DRAD Reporting.** A DRAD service interruption is defined as the loss of the radar data processing functions of the DARC system resulting in the loss of operationally acceptable digitized radar. A DRAD service interruption shall be reported when DARC reporting is required.

(3) En Route Automated Radar Tracking System (EARTS), Micro En Route Automated Radar Tracking System (MEART) and En Route Terminal Automated Radar Service (ETARS) Reporting. Control services provided by CERAP (San Juan) and other en route facilities utilizing ARTS equipment (Anchorage and Honolulu) shall report facility interruptions as EARTS/MEART and service interruptions as ETARS. The reporting criteria used for ARTS and TARS, paragraphs 211b(1) & (5), will apply to EARTS/MEART and ETARS.

(4) Oceanic Display and Planning System (ODAPS), Composite Oceanic Display and Planning Service (CODAP) Reporting.

(a) **ODAPS Reporting.** The ODAPS facility processes and displays oceanic flight data at selected ARTCC facilities. A full ODAPS interruption is defined as a complete loss of the capability of the ODAPS equipment to process and display oceanic flight data.

(b) **CODAP Reporting.** CODAP service covers all oceanic flight data processing and display through extrapolation of flight plan information. A complete loss of this service shall be reported as a full interruption. All software interruptions shall be reported against the CODAP service. Reduced facility/service (RS) reporting requirements are applicable for the CODAP service. An example of reduced facility/service reporting may be the loss of the oceanic display channel function.

(5) Offshore Flight Data Processing System (OFDPS), Composite Offshore Flight Data Service (COFAD) Reporting.

(a) **OFDPS Reporting.** The OFDPS facility processes offshore flight data at selected facilities. An OFDPS interruption is defined as a complete loss of the OFDPS equipment's capability to process flight data. Only the ZHN-OFDPS facility is reportable. Reportable equipment requirements are applicable. The OFDPS facility will provide flight data to several remote towers. This data shall be identified as FDAT services. See FDAT reporting for additional reporting requirements. When ZOA-ODAPS and ZHN-OFDPS are fully operational, flight data information will be transmitted between each site. These data shall be identified as an IDAT service. (See IDAT reporting, paragraph 211c(3)(b), for additional reporting requirements.)

(b) **COFAD Reporting.** COFAD service covers all offshore flight data processing within the OFDPS. A complete interruption of this service shall be reported as a full interruption. All software interruptions shall be reported against the COFAD service. The COFAD service shall exist only for the ZHN-OFDPS.

b. Terminal Automation Reporting.

(1) **Automated Radar Terminal System (ARTS) Reporting.** ARTS facility reporting shall cover the complete loss of usable alphanumerics caused by interruptions of the ARTS equipment located in the control facility. All interruptions are reportable for a 24-hour day regardless of published nonoperational hours. The control and remote location field in the FSEP for ARTS and TARS shall carry the same identifier as the ARTS facility. Software interruptions shall be reported under the TARS service only.

(2) **Standard Terminal Automation Replacement System (STARS).** STARS consists of dual Full Service (FS) processors and dual Emergency Service (ES) processors. This provides multiple redundancy for the system. STARS equipment is capable of processing multiple Airport Surveillance Radar (ASR) and Air Route Surveillance Radar (ARSR) inputs. Most STARS locations will process at least one ASR and one ARSR. Full (FL) and Reduced Service (RS) reports will be required for this facility. Loss of both FS and ES capability constitutes a Full outage. Loss of either FS or ES capability shall require a Reduced Service report against the TARS. Loss of any component that eliminates redundancy in either the FS or ES string shall require a Reduced Service report against the TARS.

(3) **Flight Data Input/Output Remote (FDIOR) Reporting.** FDIOR provides direct interface between a remote air traffic control (ATC) facility and an ARTCC. A full FDIOR interruption exists when a Remote Control Unit (RCU) is inoperative; when all Replacement Alphanumerics Keyboards (RANK) are not available for input; or when all of the Flight Strip Printers (FSP) are not available for output. Component failures that do not constitute a full interruption but create an impact on air traffic shall be reported as a reduced facility/service interruption. For example, the loss of one or more RANK or FSP, but not all, or the loss of a Cathode Ray Tube (CRT) display may have an impact on air traffic.

(4) **Radar Beacon Data Processor Equipment (RBDPE) Reporting.** RBDPE facility reporting shall cover the complete loss of usable numerics caused by interruptions of the RBDPE equipment located in the control facility. For reporting purposes, do not include the numeric generation conversion equipment (NGCE) as part of RBDPE. Interruptions attributed to NGCE will be reported under TARS. All interruptions are reportable for a 24-hour day regardless of published nonoperational hours.

(5) **Remote Tower Alphanumeric Display Service (RTADS) Reporting.** RTADS interruption reports are required during the loss of usable alphanumerics at satellite towers, regardless of the type of remoting. All interruptions caused by a TARS/ARTS interruption are reportable for a 24-hour day regardless of published nonoperational hours. The location identifier for RTADS is the identifier of the terminal where the service is provided. The control and remote location field in the FSEP shall carry the terminal and radar site identifier, respectively. A reduced service (RS) RTADS service interruption shall be reported when in CENRAP operation (CENRAP shall be indicated as back-up). CENRAP operation shall be indicated on the LIR remarks/comment screen.

(6) **Terminal Automated Radar Service (TARS) Reporting.** TARS interruption reports are required during the loss of usable alphanumerics on all operational positions used for air traffic control at automated radar terminal facilities equipped with ARTS. At terminals equipped with RBDPE (TPX-42), TARS interruptions will be reported for a loss of usable alphanumerics on all operational positions. All interruptions are reportable for a 24-hour day regardless of published nonoperational hours. A reduced service (RS) TARS service interruption shall be reported when in CENRAP operation (CENRAP shall be indicated as back-up). CENRAP operation shall be indicated on the LIR remarks/comment screen.

c. Other Automation Reporting.

(1) **Automated Flight Service Station (AFSS), Flight Service Data Processing System (FSDPS), Flight Service Station Automated Service (FSSAS), Flight Service Station Processing Service (FSSPS) Reporting.**

(a) **AFSS Reporting.** A full AFSS interruption is defined as the failure of the Flight Service Data Processing System (Model 1 Full Capacity) and the capability to display processed data (automation equipment only).

(b) **FSDPS Reporting.** A full FSDPS interruption is defined as the loss of the capability to fully process all flight data required by the operational program due to a failure in one or more of the hardware or software elements (ARTCC equipment only).

(c) **FSSAS Reporting.** The FSSAS is the transfer and display of flight service data at each AFSS facility. Each FSSAS will be assigned the identifier of the AFSS facility. There will be an FSSAS for each FSDPS to AFSS configuration. A complete loss of the ability to transfer or display flight service data at an AFSS facility, including hardware/software elements at either the FSDPS or AFSS, shall be reported as a full FSSAS interruption. FSSAS interruption reports shall not be made if the cause of the interruption requires a full FSSPS report. ARTCC is the control facility for the FSSAS service.

(d) **FSSPS Reporting.** The FSSPS is the processed data provided to and displayed on the AFSS equipment. A full FSSPS interruption is the loss of displayed data to all AFSS facilities associated with the failure of a single FSDPS. FSSPS is considered an umbrella service. Individual FSSAS reports are not required when a full FSSPS interruption is reported.

(2) **Enhanced Traffic Management System (ETMS) Service Reporting.** An ETMS service interruption is defined as the complete loss of all service data. Specifically this is identified as: loss of all flight data processing at the Enhanced Traffic Management computer complex; loss of data due to transmission difficulties; or loss of processing or display capability at an individual traffic management unit (TMU). TMU operations personnel have the responsibility of reporting loss of service to appropriate AF personnel. Interruptions of any flight data processing, transmitting, or display shall be reported against the appropriate ETMS service. Transmission of data may be via earth station to satellite facilities, or via leased lines. Each ETMS service shall be identified by the TMU/ARTCC or TRACON identifier.

(3) **Flight Data Entry and Printout Service (FDAT), Interfacility Data Service (IDAT) Reporting.**

(a) **FDAT Reporting.** FDAT service is the flight data processing/transfer capability existing between an ARTCC facility and a single remote FDIOR facility, inclusively. An FDAT interruption is defined as the loss of operationally acceptable flight data capability from the ARTCC to and including the remote FDIOR. CCCH/FDIOR interface problems that affect selective FDIOR sites will be reported under the appropriate FDAT service. FDAT reporting is assigned to the ARTCC. The FDAT service will be identified by the same location identifier as the remote FDIOR facility. Military-owned and maintained FDIOR sites will be reported utilizing the FDAT service report.

(b) **IDAT Reporting.**

1 IDAT service is the interfacility data information interchange capability existing between the ARTCC CCCH and the individually associated interfacility data system (IFDS) sites; i.e., TRACON/ARTS, traffic management computer complex (TMCC) facility, or another ARTCC facility, inclusively. An IDAT service interruption is defined as the loss of operationally acceptable data communications capability from the ARTCC to the remote site. An IDAT service is not reportable when the ARTS facility is out of service unless hardware/software malfunction in the ARTS is directly related to the failure of the data communications capability.

2 IDAT reporting is assigned to the ARTCC. The location identifier will be that of the ARTS facility for ARTS/ARTCC IFDS installations. For ARTCC/ARTCC IFDS sites, the basic identifier will be that of the geographically most eastern ARTCC, with appropriate suffixes added in inverse alphabetical order when the most eastern ARTCC has interfacility data to more than one ARTCC; e.g., the IDAT service between Atlanta and Memphis, Houston and Indianapolis ARTCCs would be identified as ZTL, ZTLZ and ZTLY. The geographically most eastern center will be considered the reporting ARTCC. The reporting ARTCC will be identified as the control location in the FSEP. For TMCC/ARTCC IFDS sites, the ARTCC will be considered the reporting site for the service. For TMCC/NY TRACON IFDS sites, the NY TRACON will be considered the reporting site for the service. In addition, the ARTCC/NY TRACON sites shall use its basic identifier and any appropriate suffix, if required, for the services between the ARTCC/NY TRACON and TMCC facilities.

NOTE: When IDAT and FDAT services are multiplexed on the same data circuit, a loss of the data circuit shall cause an interruption to each service. These services must be reported in MMS, entering the IDAT service on the initial LIR screen and the remaining service(s) on the associated/related screen. In addition, the IDAT line number must be added to the appropriate

screen if leased circuits caused the interruption. If a backup was used to prevent or shorten the service interruption, appropriate backup information must be added.

(4) Maintenance Processor Subsystem (MPS), MPS Service (MPSS) Reporting.

(a) **MPS Reporting.** The MPS is defined as the Tandem hardware platform that provides the operational environment for the Tandem Guardian Operating System (OS), the MMS, and the Interim Monitor and Control Software (IMCS). A full MPS interruption is defined as a hardware failure of such magnitude that the MMS and IMCS applications are not operational and providing intended functions and services.

(b) **MPSS Reporting.** The MPSS is defined as the combination of MMS and IMCS applications being up and running under the current OS. All functionality of both applications must be available. A full MPSS interruption is defined as loss of both MMS and IMCS or the OS. Reduced facility/service reporting requirements are applicable for the MPSS. An example of reduced facility/service reporting is the loss of MMS or IMCS.

(5) National Data Interchange Network (NADIN), NADIN Switch Service (NADS), NADIN Message Transfer Service (NAMS), NADIN Data Interchange Service (NDAT) Reporting. This section provides guidelines for reporting scheduled and unscheduled interruptions to NADIN services and facilities.

(a) **NADIN Reporting.** A NADIN facility consists of equipment located at the switching centers at Atlanta, Georgia (ATL), or Salt Lake City, Utah (STL), or equipment comprising the concentrator at each ARTCC. This equipment processes, controls, and transfers data among the switching center and various terminals in and external to the ARTCC. A NADIN facility full interruption is defined as the complete loss of capability to process, control, and transfer data at either switching center or at a constituent concentrator (ARTCC). NADIN facility reporting responsibility is assigned to each individual switching center and ARTCC (concentrator).

(b) **NADS Service Reporting.** NADS covers all message data processing at the NADIN switching center. A full NADS interruption is defined as a complete loss of operationally acceptable message data processing capability between a switching center and all its constituent concentrators. There will be one NADS service for each NADIN switching center. NADS is considered an umbrella service. Individual NAMS reports are not required when a full NADS service interruption is reported.

(c) **NAMS Reporting.** NAMS covers the transfer of message data between the NADIN switching center to a NADIN concentrator. A full NAMS interruption is defined as a complete loss of the message data transfer capability to a NADIN concentrator. Failure of the NADIN Concentrator to complete the data transfer constitutes full NAMS interruption reporting. The start time of the interruption shall be the time at which the NADIN switch declares the concentrator is in isolation. NAMS interruption reporting is a function of the NADIN switching center. A separate NAMS shall be established for each switching center to concentrator configuration. Each NAMS will be identified by the concentrator's identifier. Reporting responsibility is assigned to the associated NADIN switching center. The use of dial backup lines to the concentrators can be used to backup the NAMS service from the switching centers.

(d) **NDAT Reporting.** NDAT service is the data interchange capability between the two NADIN switching centers. An NDAT service interruption is defined as a complete loss of this data

interchange capability. An NDAT interruption will be reported as the result of a failure or out-of-tolerance condition of all data lines connecting the facilities which causes a degradation of the system beyond acceptable use. NDAT reporting is assigned to the ATL switching center. ATL switching center shall make an appropriate NDAT entry in the FSEP indicating ATL as the control site. Dial backup lines can be used to backup the NDAT service between switching centers.

(6) **Central Flow Control Service (CFCS) Reporting.** CFCS is the service provided by the TMCC. All service interruptions of the TMCC are reportable. The reporting responsibility for CFCS is assigned to the Air Traffic Control System Command Center (ATCSCC) in Herndon, VA. CFCS is supported by several IDAT services. (See paragraph 211c(3)(b) for IDAT reporting requirements.)

212. COMMUNICATION REPORTING.

a. En Route Communication Reporting.

(1) Backup Emergency Communications (BUEC), BUEC Service (BUECS) Reporting.

(a) **BUEC Reporting.** BUEC is a backup air-to-ground radio communications facility, generally remotely located, serving an ARTCC's control area. Report only interruptions that pertain directly to the BUEC facility. Interruptions caused by interference and FAA or TELCO line/link failures shall not be reported as BUEC interruptions but shall be reported for the BUECS (service) affected. A full BUEC interruption is the complete loss of ability to transmit or receive at a single BUEC location.

(b) **Sustained Backup Emergency Communications.** Sustained BUEC has been identified in the Facility, Service and Equipment Profile (FSEP) with a facility identification code under BUEC. The sustained BUEC code is 41BC. A sustained BUEC full interruption is the complete loss of ability to transmit and/or receive voice communications or the degradation of the equipment to the point where service is unusable.

(c) **BUECS Reporting.** BUECS is the air-to-ground radio communications service provided by a single BUEC site to an ARTCC facility. The BUECS consists of communication equipment at the BUEC site and associated selecting equipment at the ARTCC facility. A full BUECS interruption shall be reported when a system is completely unavailable for service (e.g., loss of all communication equipment at a BUEC site, a complete loss of capability to select a BUEC site, or the loss of all lines to a BUEC site). In the event of any BUECS component failures that do not constitute a full interruption, a reduced facility/service (RS) report shall be made. Whenever possible, the remarks field shall contain, at a minimum, the AT sector affected and the identifier of the controlling ARTCC facility. Reporting responsibility is assigned to the controlling ARTCC facility. BUECS entries in the FSEP shall be made by the controlling ARTCC using its cost center, identifier of the BUEC site, and indicating the ARTCC as the control facility.

(2) **Remote Center Air/Ground Communications Facility (RCAG), En Route Communications Service (ECOM) Reporting.** ECOM and RCAG interruptions shall be reported when one or more frequencies are out of service. A frequency is out of service when the transmit or receive function or both are inoperable or when performance is degraded to the point where the service is unusable. Continuation of service by use of standby equipment, with the same frequency, located at the same RCAG facility does not constitute an interruption. ECOM services, from adjacent RCAG facilities with common frequencies, will not be considered a backup for another ECOM service.

(a) **ECOM Reporting.** ECOM reports provide the en route air/ground communication service picture as seen by the ARTCC. An ECOM report shall be required even when backup communications equipment (BUEC, RML/RCL, selective signaling (SS-I), etc.) is used to prevent or reduce the duration of the service interruption. The ECOM location identifier will be the same as the remote RCAG site. ECOM interruption reports are required even when an appropriate backup system is used.

(b) **RCAG Reporting.** Report only interruptions that pertain directly to the RCAG facility. Any equipment, lines, or other components on the FAA side of the demarcation point is reportable as part of the RCAG facility. Interruptions caused by interference and FAA or TELCO line/link failures shall not be reported as RCAG interruptions but shall be reported by the ARTCC as ECOM service interruptions.

(3) **Voice Switching and Control System (VSCS), Voice Switching and Control System Service (VSCSS) Reporting, VSCS Emergency Access Radio System (VEARS), VSCS Training and Backup Switch (VTABS) Reporting:** The VSCS provides ARTCC facilities with three types of voice communications; radio (air-to-ground), interphone, and intercom.

(a) **VSCS Reporting.** VSCS equipment failures which result in the loss of all ECOM services shall be reported as a full VSCS interruption. Any hardware failure which does not constitute a full interruption and creates an impact on AT operations shall be reported as a reduced facility/service (RS)VSCSS interruption.

(b) **VSCSS Reporting.** A full VSCSS interruption is defined as the inability to provide air-to-ground communications to the controller. A reduced facility/service VSCSS report is required for the loss of one or more, but not all, air-to-ground services. The loss of any interphone capability shall be reported as reduced facility/service (RS) VSCSS interruption. Interruptions caused by software failures shall be reported as a VSCSS interruption. VSCSS is considered an umbrella service, individual ECOM reports are not required when a full VSCSS interruption is reported.

(c) **VSCS Emergency Access Radio System (VEARS) Reporting.** VEARS provides access to emergency back-up communications from the Air Traffic Controller position to a specific Remote Center Air/Ground Communication (RCAG) facility radio(s). VEARS equipment failures which result in the loss of all voice communications shall be reported as a full interruption against the facility. Any VEARS hardware failure which result in the inability to operate in the standby configuration shall be reported as a full interruption against the facility. Any VEARS hardware failure which does not constitute a full interruption, but creates an impact on Air Traffic operations, shall be reported as a reduced facility/service interruption against the facility.

(d) **VSCS Training and Backup Switch (VTABS) Reporting.** VTABS allows for access to air-to-ground and ground-to-ground communications resources independently of VSCS in the event of a catastrophic failure of the VSCS, loss of power sources, or planned/unplanned maintenance activities that necessitate taking the VSCS out of service. VTABS is configured in a hot-standby mode to the VSCS. VTABS equipment failures which result in the loss of all ECOM services shall be reported as a full interruption. Any hardware failure which does not constitute a full interruption and creates an impact on AT operations shall be reported as a reduced equipment outage. Any hardware failure which does not constitute a full interruption and creates an impact on providing communications capability in the Dynamic Simulation (DYSIM) laboratory shall be reported as a reduced equipment outage.

b. Terminal Communication Reporting.

(1) **Remote Transmitter/Receiver (RTR) Reporting.** Interruptions shall be reported when one or more frequencies are out of service. Report only interruptions that pertain directly to the RTR facility. A frequency is out of service when the transmit or receive function, or both, is inoperable or when performance is degraded to the point where service is unusable.

(2) **Terminal Communications Service (TCOM) Reporting.** Individual air/ground frequency interruptions at airports shall be reported as TCOM service interruptions. A frequency is out of service when the transmit or receive function, or both, is inoperable or when performance is degraded to a point where the service is unusable at the control facility. The use of service fault location and remarks will be used to identify the facility or equipment that caused the interruption. The TCOM service shall be identified by the remote facility's or family of facilities' ident. A "family" of RTR facilities is one or more RTR facilities at a single geographic location supporting one control facility. Each RTR facility within the "family" must have the same basic three letter identifier. A TCOM service shall be established at the control facility for each "family" of RTR facilities. Idents for multiple TCOM services for a single geographic location shall be distinguished by use of a suffix in addition to the basic three letter identifier. A TCOM report shall be required even when backup communications equipment is used to prevent or reduce the duration of the service interruption.

(3) **Terminal Voice Switch (TVS).** TVS facilities provide switching between communication devices at Air Traffic Control Tower (ATCT), Terminal Radar Approach Control (TRACON), Automated Flight Service Station (AFSS), and Flight Service Station (FSS) facilities. Equipment types identified under the TVS heading are Small Tower Voice Switch, Enhanced Terminal Voice Switch and Rapid Deployment Voice Switch. All interruptions to these equipment shall be reported as TVS facility interruptions. The inability of the equipment to transmit and/or receive voice communications at all positions shall constitute a full TVS interruption. Any TVS component failure which does not constitute a full interruption, but creates an impact to Air Traffic operations shall be reported as a reduced facility/service (RS) interruption against the TVS. In addition, if any TVS component failures cause the loss of a reportable service (i.e. Terminal Communications, FSS Communications) then the affected services shall be reported as a full interruption.

c. Other Communication Reporting.

(1) **Automatic Terminal Information System (ATIS) Reporting.** The ATIS provides a continuous broadcast of the latest terminal information to NAS users. ATIS is comprised of recording equipment usually located at the tower, land line, and a transmitter (usually collocated at a RTR site). A full interruption report is required when the ATIS is unable to provide a continuous broadcast of updated information.

(2) **Fiber Optics Transmission System (FOTS) Reporting.** The FOTS converts information for fiber optics transmission and then reconverts the information back to the original form at the output destination. The loss of all FOTS capabilities shall require full interruption reporting. Reduced facility/service reporting shall be used to indicate the system's inability to transmit information on one or more, but not all, FOTS circuits.

(3) **Ground Air Transmit/Receive Facility (GATR) Reporting.** Interruptions shall be reported whenever one or more frequencies are out of service. A frequency is out of service when the transmit or receive function, or both, is inoperable or when performance is degraded to the point where service is unusable. Report only interruptions that pertain directly to the GATR. Interruptions caused by

interference or TELCO failure shall not be reported as GATR interruptions. Reporting responsibility is assigned to the FAA personnel maintaining the GATR facility. If the AN/GRC-171 is used as standby equipment to the GATR, its use can prevent interruption reporting of a single frequency. At those sites where multiple frequencies are interrupted at the same time, all frequencies--minus one if AN/GRC-171 is used, shall be reported as an interruption.

(4) **Integrated Communications Switching System (ICSS) Reporting.** The ICSS provides voice communication functions at ATCT, TRACON, and AFSS facilities. Complete failure of ICSS equipment shall be reported as a full interruption. Any component failure which does not constitute a full interruption or creates an impact on AT operations shall be reported as a reduced facility/service interruption.

(5) **Voice Recorder System (VRS) Reporting (formerly Multichannel Recorder (MCR)).** The VRS has capability to record and playback audio information transmitted or received by the air traffic specialist at an operating position. A typical VRS includes two tape transports, a monitor amplifier, a record amplifier, and a reproducer. All full interruptions shall be reported. A full VRS interruption is defined as the complete loss of capability to record voice data.

(6) **National Radio Communications System (NRCS) Reporting.** The NRCS is a complex, computer controlled radio system providing communications support for national, regional, and local activities. HF/UHF/VHF radios are deployed in base, mobile, and repeater stations. This facility does not include equipment at emergency operating facility (EOF) locations. Only high frequency/single sideband (HF/SSB) radios, class A, B, and C, operating at 1 kw or greater, are reportable. A full NRCS interruption is defined as the loss of capability to provide intended communication functions.

(7) **Flight Service Station Communications Service (FCOM), Reporting Remote Communications Outlet (RCO).**

(a) **FCOM Reporting.** FCOM reports provide the terminal air/ground communications picture at an FSS/AFSS. Individual air/ground frequency interruptions shall be reported as FCOM service interruptions. Report only interruptions that pertain directly to the FCOM service. The use of service fault locations and remarks fields on the LIR will identify the facility or equipment that caused the interruption. A frequency is out of service when the transmit or receive function, or both, is inoperable or when performance is degraded to a point where the service is unusable. A FCOM service shall be established in the FSEP for each RCO (this includes Frequencies-In-Place). The location identifier shall be the same as the identifier of the RCO facility. Alternate frequencies cannot be used to prevent FCOM interruption reporting. If available, the appropriate backup system should be indicated on the FCOM interrupt report. The control facility has responsibility for FCOM reporting.

(b) **RCO Reporting.** Interruptions shall be reported whenever one or more frequencies are out of service. Report only interruptions that pertain directly to the RCO facility. A frequency is out of service when the transmit or receive function, or both, is inoperable or when performance is degraded to the point where service is unusable. Continuation of service by use of standby equipment located at the same RCO facility does not constitute an interruption.

(8) **Satellite Communications Network (SACOM).** A full SACOM outage, whether hardware or software related, shall be reported when one of the following conditions occurs:

(a) Complete failure of the earth station.

- (b) The loss of both primary and alternate links.

Individual channel failures that are a part of the aggregate SACOM facility signal shall be reported as a reduced facility/service (RS) against the affected SACOM facility. Regardless of full or reduced facility/service reports against the SACOM facility, all NAPRS reportable service interruptions shall be entered as a full (FL) outage for the affected service.

213. NAVIGATIONAL AIDS REPORTING.

a. **Approach Light System (ALS) Reporting.** Interruptions to ALS shall be reported when it can be determined by visual reference that the number of failed adjacent bars (threshold, wing, terminating, or centerline) has exceeded the certification parameters specified in the latest edition of Order 6850.5, Maintenance of Lighted Navigational Aids. These incidents shall be reported as unscheduled interruptions at the time AT releases the facility/service for maintenance. Reduced facility/service operation reporting requirements are applicable for this section (See paragraph 311 of this order).

(1) **Dual Mode ALS** can be operated as an ALSF-2 or simplified short approach light system with runway alignment indicator lights (SSALR) facility. These dual mode ALS facilities have the following FSEP classes as per the latest edition of Order 1380.40, Airway Facilities Sector Level Staffing Standard System, Appendix 1.

Class E - ALSF-II (Dual mode, high intensity approach lighting system) CAT I

Class K - ALSF-II (Dual mode, high intensity approach lighting system) CAT II/III

(a) **Loss of Both ALSF-II and SSALR.** For Class E, or K, report a full ALS interruption. Refer to paragraph 213a(2) for SSALR reporting.

(b) **Loss of ALSF-II Capability Only.** For Class K, report the loss of runway category as a reduced facility/service interruption, identifying the ALSF-II in the description field of the interruption report.

(c) **Loss of SSALR Only.** A reduced facility/service interruption report shall be made identifying the failed SSALR in the Description field of the NAPRS report.

(2) **ALS, Shortened Approach Light System (SALS), Simplified Short Approach Lighting System (SSALS), Medium-Intensity Approach Light System (MALS) with Runway Alignment Indicator Lights (RAIL) (MALSR), SSALR Reporting.** When these facilities experience a loss of the RAIL/Sequenced Flasher Lights (SFL) only, the ALS, MALS, SALS, or SSALS portion can still provide a usable service. Reduced facility/service interruption reporting is required during the loss of the RAIL/SFL. The failed RAIL/SFL shall be identified in the description field of the LIR as well as any change in runway category.

(3) **Lead-In Light Facility (LDIN) and Omnidirectional Airport Lighting System (ODALS) Reporting.** A complete failure of either of these systems to provide light guidance/vectoring to aircraft is reportable as a full interruption.

b. **Navigation Reporting.** With one exception, failure of the remote monitoring feature for LOC, GS, and marker systems shall not be reported as an interruption if the facility is equipped with an

automatic shutdown feature, providing that the system is determined to be operating normally. Appropriate AT personnel shall be advised that the facility is operating normally without remote monitoring. The exception is if the failure results in the downgrading of Category II or III runway capability. Where category downgrades apply, a reduced facility/service (RS) interruption shall be made to the Localizer facility log.

(1) En Route Navigation Reporting.

(a) Tactical Air Navigation (TACR) Reporting. All interruptions, 1 minute or greater in duration, shall be reported. The loss of azimuth information only shall require a reduced facility/service report. These interruption reports shall include the statement "DME operation only" in the LIR remarks/comments field.

(b) Very-High-Frequency Omnidirectional Range (VOR) Reporting. All interruptions, 1 minute or greater in duration, shall be reported as a full outage. Loss of voice only is not reportable. In addition to full outage reports, whenever a NOTAM has been issued against a VOR, a reduced facility/service (RS) interruption report shall be entered using the NOTAM start/end times.

(2) Terminal Navigation Reporting.

(a) Glide Slope (GS), Fan Marker (FM), Localizer (LOC), Compass Locator at the ILS Outer Marker (LOM), Inner Marker (IM), Middle Marker (MM), Outer Marker (OM), collocated with a LOC Distance Measuring Equipment (DME) Reporting. At multiple ILS locations, operational shutdown of one ILS, as a result of an interlock feature, will not be reported. Any other ILS component (GS, MM, IM, OM, LOC, DME, or LOM) shutdown resulting from a scheduled or unscheduled cause will require an interruption report even though an alternate ILS system is in use. In addition to full outage reports, the loss of any ILS component, including RVR, Engine Generator, RMMS, FOTS, and ALS, that downgrade a CAT II/III runway capability shall be reported as a reduced facility/service (RS) report against the Localizer.

(b) Microwave Landing System Azimuth (MLSA), Microwave Landing System Back Azimuth (MLSBA), Microwave Landing System Distance Measuring Equipment Precision (MLSD), Microwave Landing System Elevation (MLSE), and Microwave Landing System Flare (MLSF) Reporting. A complete failure of any one of these systems to provide aircraft landing/departure guidance shall be reported as a full interruption.

(3) Other Navigation Reporting.

(a) Direction Finder (DF) Reporting. The DF consists of an antenna system, receiver, site indicator, and remoting equipment which receives aircraft radio signals, processes them, and provides a visual display at a control facility indicator console. This system provides aircraft direction relative to the DF facility. A DF interruption report is required for the failure of any component within the DF that prevents the visual display on the indicator console.

(b) Direction Finder Indicator (DFI) Reporting. DFI is a system consisting of an indicator and remoting equipment which processes information from remote DF facilities and provides a visual display on the control facility indicator console. This system provides the aircraft's direction relative to the DF facility. A DFI interruption report is required for failure of any DFI component that prevents visual display on the control facility indicator console. Landline interruptions to/from the remote DF are

reportable as DFI interruptions. If multiple DF facilities support a single DFI, a DFI interruption report is required when land lines to all the remote DF facilities are interrupted at the same time.

(c) **Distance Measuring Equipment (DME) Reporting.** All interruptions, 1 minute or greater in duration, shall be reported, even when a DME facility supports more than one instrument landing system. This may result in numerous interruptions of the DME facility due to operational demands. DME interruptions caused by another facility, such as the loss of identification (IDENT) from a localizer (LOC), shall be reported as a related interruption.

(d) **Distance Measuring Equipment (DMER) TACR Commissioned DME Only.** A complete failure to provide aircraft distance is reportable as a full interruption.

(e) **Non Directional Beacon (NDB) Reporting.** This facility transmits a continuous carrier which is used by aircraft to determine bearing. The inability of the NDB to provide this service shall be reported as a full interruption.

(f) **Runway Visual Range (RVR) Reporting.** Failure of the RVR to provide the effective visibility function for any reason, including loss of digital reading of runway light reference input, is reportable as a full interruption. System initiated built-in performance checks shall not be reported as interruptions unless the checks reveal an out-of-tolerance condition requiring shutdown. To facilitate consistent reporting, all interruptions are reportable even when visibility is greater than 6000 feet.

1 The Teledyne RVR has up to 8 Runway Light Intensity Sensors (RLIM), upwards to twelve Visibility Sensors (VS) and 1 Ambient Light Sensor (ALS). All the sensors feed into the Data Processing Unit (DPU) and are displayed on the local and remote displays for use by Air Traffic in the ATCT and TRACON. In the event that the DPU fails, a full interruption shall be entered against the RVR. In the event that either local and/or remote displays do not present information, a full interruption shall be entered against the RVR. In the event the ALS fails, a full interruption shall be entered against the RVR. Any RVR failure which does not constitute a full interruption, but creates an impact on NAS operations, shall be reported as a reduced facility/service interruption (RS) against the RVR.

214. **SURVEILLANCE REPORTING.** Reduced facility/service operation reporting requirements are applicable for this section (See paragraph 311 of this order).

a. En Route Surveillance Reporting.

(1) **Air Route Surveillance Radar (ARSR), Common Digitizer (CD), En Route Radar Service (ERAD), En Route Secondary Radar Beacon Service (ESEC), Radar Data Service (RDAT)/Beacon Data Service (BDAT), Mode S Data Link (MODES) Data Service (MDAT) Reporting.**

(a) **ARSR Reporting.** Interruption reporting for ARSR facilities shall pertain to ARSR equipment at the transmit/receiver (TR) site only. The loss of radar video due to a failure at the indicator site (normally ARTCC) shall be reported in the appropriate service interruptions report. For ARSR-3 facilities, report as "ARSR" only those interruptions associated with the broadband portion of the radar. A separate facility type for CD shall be established for ARSR-3 facilities in the FSEP (facility code 259AD, class X).

1 The ARSR-4 is a 3 dimensional system which feeds both FAA and Department of Defense users. The radar can determine aircraft height based on primary radar returns. If an ARSR-4 facility suffers failure of equipment components (weather station) which cause the radar derived height data to be out of tolerance, however the FAA ARTCC search targets to be unaffected, a reduced facility/service (RS) interruption report shall be made for the ARSR facility and its affected military RDAT service.

NOTE: In ARSR-4 facilities the CD is a part of the ARSR facility. A separate CD facility shall not be established in the FSEP.

(b) **CD Reporting.** Report the CD as facility type CD and utilize the location identifier for the ARSR/ATCBI/MODES site. This procedure will also be applicable for ARSR-3 facilities in which the CD is integrated into the ARSR system. An interruption of both primary and secondary digitized radar that occurs within the CD shall be reported as a full CD facility interruption. An interruption of either primary or secondary digitized radar that occurs within the CD shall be reported as a reduced facility/service (RS) interruption against the CD. In addition, a full interruption against the affected digitized service shall also be reported. ARSR-3 interruptions, scheduled or unscheduled, that occur within the Digital Target Extractor (DTE) cabinet shall be reported as a CD interruption. Military CD height functions and associated interfaces are excluded from CD interruption reporting and are to be reported separately as Military Interface Group/Military Interface Modification (MIG/MIM) reports.

(c) **ERAD, ESEC Reporting.**

1 ERAD/ESEC reports provide the primary and secondary en route radar (broadband) service picture as seen by the ARTCC for each primary and secondary radar facility regardless of the radar type, remoting system, or display system employed. An ERAD/ESEC interruption is defined as the loss of primary/secondary radar data on all operational displays used by ATC. For reporting purposes, CERAP facilities will be considered primarily as a center activity and will report ERAD/ESEC. All ERAD/ESEC interruptions shall be reported regardless of whether the facility is in a narrowband or a broadband operation.

2 The ERAD/ESEC location identifier shall have the same identifier as that of the radar TR site. If the radar TR site serves two or more centers, the service identifier will bear the suffix starting with "Z" descending alphabetically for each center. If a radar site provides primary and secondary radar service to an ARTCC as well as to a terminal facility, the ERAD/ESEC location identifier for the ARTCC a suffix "Z" shall be added to the basic alpha identifier of the radar site (e.g., ABCZ ERAD).

(d) **RDAT/BDAT Reporting.** The RDAT/BDAT service is the digitized primary and secondary radar data presented at ARTCC and CERAP and military locations from a single remote ASR/ARSR and/or ATCRB/ATCBI/MODES site. Common equipment failures (modulator-demodulator (MODEM), TML/RML, FAA/TELCO line, CCCH adapter, etc.) will result in interruption reporting for all services. Failures of individual components will result in a single service report. For example, failure of the ATCRB/MODES at an ARSR site would require a BDAT service report, but not an RDAT report. FAA RDAT/BDAT reporting responsibility is assigned to the ARTCC/CERAP location. Military RDAT/BDAT reporting responsibility is assigned to the parent radar facility. The service identifier assignment for RDAT/BDAT is the same as for ERAD/ESEC (See paragraph 214a(1)(c) of this order). When RDAT and BDAT services are multiplexed on the same data circuit, a loss of the data circuit shall cause an interruption to each service. The RDAT service shall be entered on the initial LIR screen and the remaining service(s) shall be entered on the associated/related screen(s). In addition, the RDAT line

number must be added to the appropriate screen if leased circuits caused the interruption. If a backup was used to prevent or shorten the service interruption, appropriate backup information must be added. A loss of height data shall result in a reduced service/facility (RS) interruption report against the military RDAT service.

(e) **Mode S Data Service (MDAT) Reporting.** Mode S facilities have been commissioned with either full capability or Interim Beacon Interrogator (IBI) only. MDAT is the secondary radar service provided by the en route MODES facility.

1 At Mode S sites that have been commissioned with full capability, an MDAT service shall be established. A full loss of capability requires a full outage (FL) against the MDAT. A degradation to IBI only shall require a reduced facility/service against the MDAT.

2 At Mode S sites that have been commissioned with Interim Beacon Interrogator (IBI) only, a BDAT service shall be established. Loss of IBI shall require a full outage (FL) against the BDAT. When these commissioned facilities are upgraded to a full Mode S capability, the BDAT service shall be removed and replaced with an MDAT service. At this time, refer back to Paragraph 214a(1)(f)1 for reporting requirements.

(2) **Common Digitizer Military Interface Group (MIG)/Military Interface Modification (MIM) Reporting.** Military CD height functions and associated interfaces are reported separately as MIG/MIM reports. Report the military interface group of the CD at joint-use ARSR sites as facility type MIG and use the location identifier of the ARSR site. This procedure will also be applicable at ARSR-3 facilities in which the MIM is added to the ARSR system.

b. Terminal Surveillance Reporting.

(1) **Airport Surface Detection Equipment (ASDE) Reporting.** ASDE is a short-range airport radar facility in the terminal air traffic control system used to detect and display ground targets, such as aircraft, vehicles, and other objects on the ground, which enables ATC specialists to expedite aircraft movement. A complete failure of this system to provide display target to the display shall be reported as a full interruption. Associated displays shall be reported as part of the ASDE.

(2) **Airport Surface Detection Equipment Service (ASDES) Reporting.** ASDES is the ASDE radar data displayed in the Air Traffic Control Tower (ATCT). Any degradation constitutes a reduced facility/service (RS) outage. For example, a failure of the Airport Movement Advisory Safety System (AMASS) that does not create a complete loss of targets in the display shall constitute a reduced facility/service (RS) outage. A complete loss of data shall be reported as a full interruption.

(3) **Airport Surveillance Radar (ASR), Remote Tower Radar Display Service (RTRDS), Terminal Radar Service (TRAD), Terminal Secondary Radar Service (TSEC) Reporting.**

(a) **ASR Reporting.** The reporting of interruptions for ASR facilities shall pertain only to the ASR equipment at the TR site. The loss of primary radar targets caused by failure of equipment at the indicator site shall not be reported as an ASR facility interruption, but shall be indicated as an interruption to the appropriate service. A full interruption is defined as the equipment's inability to provide primary radar service. Modems and SCIPs at the ASR-9 site are considered an integral part of the ASR. Interruptions to the TRAD service due to modem failure at the radar site shall require a full

ASR interruption report in addition to the appropriate service report. Interruptions to TSEC only resulting from components within the ASR-9 will require a ASR-9 reduced facility/service report.

(b) **RTRDS Reporting.** RTRDS reporting shall be required for ATC satellite facilities which provide radar advisory service. These are satellite facilities which are remoted via the following systems: television microwave link (TML), such as TERRA-COM and International Microwave Corporation (IMC); Radar Microwave Link (RML); TELCO line (narrowband only); etc. A full RTRDS service interruption is defined as a complete loss of the composite primary and secondary radar information. The location identifier for RTRDS is the same as the identifier of the terminal where the service is provided. The control and remote location field in the FSEP shall carry the terminal and radar site identifier, respectively.

(c) **TRAD/TSEC Reporting.** A TRAD (TSEC) service interruption is defined as the loss of primary (secondary) radar on all operational displays used by ATC. TRAD/TSEC interruption reporting shall be required for any AT facility which provides radar approach and/or departure control service. All TRAD/TSEC interruptions are reportable regardless of digital or analog operation. Those facilities at satellite ATC facilities where a composite primary and secondary radar picture is remoted via TML (analog) or modem (digitized) are not reportable as TRAD/TSEC (See RTRDS reporting).

1 The TRAD/TSEC location identifier is the same as the basic alphabetical identifier of the radar TR site. If an ASR radar TR site serves multiple terminal locations, the TRAD/TSEC ident shall have an addition of a suffix. The service suffix shall be applied in inverse alphabetical order, e.g., ABCZ TRAD/TSEC, ABCY TRAD/TSEC, ABCX TRAD/TSEC etc.

2 A TRAD/TSEC report is not required if an instrument flight rules (IFR) room display or tower display fails and another display (tower or IFR room) is used by AT to provide service.

3 Terminal Radar Approach Control in Tower Cab (TRACAB) locations and TRACONs with only BRITE indicators installed are required to enter a TRAD/TSEC interruption report when AT has insufficient capability to control traffic because of display failures.

4 Loss of decoding capability within the ARTS II equipment will not require TSEC service interruption.

5 Multisensor terminals with more than one TRAD/TSEC service provided shall report any service interruption, even though the service may not be in use at the multisensor terminal at the time of the failure.

6 Loss of Video Compression System (VCS) equipment shall constitute a TRAD/TSEC and/or RTADS/RTRDS, as applicable.

(4) **Bright Radar Indicator Tower Equipment (BRITE) Reporting.** The only class of BRITE that is NAPRS reportable is DBRITE. The DBRITE is a tower display system that provides a raster scan presentation of radar/beacon videos and automation system alphanumeric data. A full DBRITE interruption is defined as the loss of capability to display radar and/or alphanumeric information on all DBRITE displays within the facility. since DBRITE is not an FSEP-reportable facility type, all reports shall be made against the appropriate FSEP BRITE facility.

c. Other Surveillance Reporting.

(1) Air Traffic Control Beacon Interrogator (ATCBI), Air Traffic Control Radar Beacon (ATCRB), Mode S Data Link (MODES) Reporting.

(a) **ATCBI Reporting.** Interruption reporting requirements for beacon-only sites will be covered by the facility type ATCBI. Where appropriate, CD reporting shall also be required.

(b) **ATCRB Reporting.** Interruption reporting for ATCRB facilities shall pertain to ATCRB equipment at the remote site only. Common ATCRB/ASR (ARSR) elements such as the antenna drive motor or rotary joint are part of the ASR/ARSR equipment. Failure of common elements would require an ASR or ARSR report and not an ATCRB report unless actual failure or maintenance of an ATCRB signal handling component occurs. When common ASR/ARSR components fail, an appropriate report for ATCRB services (TSEC/MSEC/ESEC/BDAT) will be required even though an ATCRB equipment report may not have been prepared.

(c) **Mode S Data Link (MODES) Reporting.** MODES facilities provide the functions of selection interrogation, monopulse technology, digital processing of targets, beacon interrogation, and Data Link (where is defined as part of the commissioned facility operation). Interim Beacon Interrogation (IBI) is a sub-function of the MODES facility. The inability of the MODES to provide all functions, excluding Data Link, shall result in full interruption reporting. Degradation of MODES operation to beacon interrogation only or the loss of data link capability shall be reported as a reduced facility/service interruption (RS). Indication of "beacon interrogation operation only" shall be made in the remarks/comments field of the LIR. Loss of channel redundancy constitutes a reduced facility/service (RS) interruption. Failed channel(s) shall be indicated in the LIR remarks/comments field.

(d) **MODES Secondary Radar Service (MSEC) Reporting.** Mode S facilities have been commissioned with either full capability or Interim Beacon Interrogator (IBI) only. MSEC is the secondary radar service provided by the terminal MODES facility.

1 At Mode S sites that have been commissioned with full capability, an MSEC service shall be established. A full loss of capability requires a full outage (FL) against the MSEC. A degradation to IBI only shall require a reduced facility/service against the MSEC.

2 At Mode S sites that have been commissioned with IBI only, a TSEC service shall be established. Loss of IBI shall require a full outage (FL) against the TSEC. When these commissioned facilities are upgraded to a full capability, the TSEC service shall be removed and replaced with an MSEC service. At this time, refer back to Paragraph 214c(1)(d)1 for reporting requirements.

(2) **Identification, Friend, or Foe (IFF) Reporting.** Interruption reporting for IFF facilities pertains to the USAF mode 4 equipment at joint-use TR sites. Report the mode 4 processor as facility type IFF and utilize the location identifier of the ARSR site.

(3) **Communications Microwave Link Repeater (CMLR), Communications Microwave Link Terminal (CMLT), Radio Communications Link Repeater (RCLR), Radio Communications Link Terminal (RCLT), Radar Microwave Link Repeater (RMLR), Radar Microwave Link Terminal (RMLT), Television Microwave Link Indicator (TMLI), Television Microwave Link Repeater (TMLR), and Television Microwave Link Terminal (TMLT) Reporting.**

(a) Any complete failure of RCLR and RCLT facilities shall be reported as a full facility/service (FL) interruption against the equipment and services. Loss of redundant channel shall be reported as a reduced facility/service (RS) interruption against the facility. Link interruptions caused by path fade shall not be reported as a facility interruption but an interruption report shall be entered for the particular service affected.

(b) Any complete failure of CMLR, CMLT, RMLR, RMLT, TMLI, TMLR, and TMLT facilities shall be reported as a full interruption. In the RMLR and RMLT loss of one or more channels, which does not constitute a full facility interruption but causes loss of service, shall be reported as a reduced facility/service interruption against the facility in addition to a full interruption report on the affected service. Link interruptions caused by path fade shall not be reported as a facility interruption but an interruption report shall be entered for the particular service affected.

(4) **Terminal Radar Video Switching System (TRVSS) Reporting:** TRVSS provides distribution of the terminal radar signals to one or more AT display positions. TRVSS equipment failures which result in the loss of all TRAD/TSEC services shall be reported as a full interruption. The loss of radar signals at one or more AT display positions shall be reported as reduced facility/service (RS) outage for TRAD/TSEC.

(5) **Precision Runway Monitor (PRM).** PRM provides for simultaneous precision approaches at airports, with parallel runways less than 4,300 feet apart, during inclement weather. A PRM facility interruption is defined as a loss of the PRM equipment capability to fully provide simultaneous precision approaches and shall be reported as a full facility/service (FL) interruption.

215. WEATHER REPORTING.

a. **Altimeter Setting Indicator (ASI) Reporting.** ASI is an indicator that provides a numerical value of barometric pressure. The inability of the ASI equipment to provide barometric pressure shall require full interruption reporting.

b. **Automated Surface Observing System (ASOS), Automated Weather Observing System (AWOS) Reporting.** ASOS/AWOS facilities provides 24-hour a day, real-time, weather data to the aviation community. The system collects, processes, and broadcasts weather data automatically. The failure of the barometric sensor, or the complete loss of all transmission means, shall be reported as a full (FL) interruption. A reduced facility/service (RS) report is required for any one of the following three conditions: 1) Loss of Date Time Group (Service A), 2) loss of one or more, but not all sensors (excluding barometric), and 3) loss of one or more, but not all transmission means. Appropriate notice to airmen reports, through existing procedures, shall be issued for both FL interruptions and RS conditions. The reduced facility/service report shall include identification of the failed component (i.e., sensor, data collection platform, control data platform, or data distribution) and the lowest replaceable unit's description, manufacturer part number, and serial number where appropriate.

c. **Aviation Weather Processor (AWP), Aviation Weather Processor/Concentrator Service (AWPC), AWP Interface Service (AWPI), AWP Service (AWPS), AWP Transfer East Service (AWPTE), AWP Transfer West Service (AWPTW) Reporting.**

(1) **AWP Reporting.** AWP provides centralized capability for the collection, processing, and distribution of weather, NOTAMs, and general Service B data to FSDPS facilities. A full AWP

interruption is defined as the loss of any software or hardware element of the AWP that prevents the collection, processing, and distribution of these data.

(2) **AWPC Reporting.** AWPC is the service that provides data transfer capability between an AWP and a NADIN concentrator. A full AWPC service interruption is the complete loss of data transfer capability. Two AWPC services shall exist. One AWPC will identify the transfer capability between ATL-AWP and ZTL-NADIN and the other between SLC-AWP and ZLC-NADIN. Each AWPC will have the same identifier as the NADIN concentrator. AWPC interruption reporting is assigned to the NADIN concentrator. A full AWPC report is not required when full NADIN Switch (NADS) interruption is reported or when a NAMS interruption is reported for ZTL-NADIN or ZLC-NADIN.

(3) **AWPI Reporting.** AWPI service is the data interchange capability between the two AWP facilities. A full AWPI service interruption is defined as a complete loss of this data interchange capability. One AWPI shall exist and it be identified as ATL AWPI. The AWP facility located at Atlanta, Georgia, is assigned AWPI reporting responsibility.

(4) **AWPS Reporting.** AWPS is the service central to the AWP facility. The inability to collect, process, and distribute weather, NOTAMs, and general Service B data to all FSDPS facilities shall be reported as a full interruption. AWPS is an umbrella service. Individual AWPTE and AWPTW reports are not required when a full AWPS interruption is reported.

(5) **AWPTE/AWPTW Reporting.** AWPTE/W is the data transfer capability between an AWP facility and any constituent FSDPS facilities. A full AWPTE/W service interruption is defined as a complete loss of data transfer capability. AWPTE/W will be used to identify the transfer services associated with AWP facilities located at Atlanta, Georgia, and Salt Lake City, Utah, respectively. Each AWPTE/W will have the same identifier as the FSDPS facility. AWPTE/W reporting requirements are assigned to the AWP facility. Individual AWPTE or AWPTW service interruption reports are not required when a full AWPS interruption is reported.

d. Low-Level Windshear Alert System (LLWAS), Low-Level Wind Service (LLWS), Terminal Doppler Radar (TDWR), TDWR Service (TDWRS), Wind Measuring Equipment (WME) Reporting.

(1) **LLWAS Reporting.** LLWAS facilities consist of sensors which provide visual and audible warning indicators to air traffic. LLWAS processes and transfers microburst, windshear, windspeed, and wind direction. Reduced facility/service reporting applies to sensor/station failures that do not constitute a full LLWAS interruption. In the event a failed sensor/station generates a "windshear data unavailable for runway" condition within the LLWAS system, that condition shall be indicated in the remarks field of the interruption report for that sensor/station. A full LLWAS interruption is defined as the loss of one of the following key elements of the system:

(a) Remote Sensor/Station interruption criteria:

- 1 Original Five- or Six-Sensor System - Loss of all remote sensors/stations.
- 2 LLWAS Five- or Six-Sensor Improvement - Loss of two or more remote sensors/stations.

3 Expanded Network - Loss that is equal to or greater than 50 percent of all sensors/stations, including center field. For odd number sensor/stations system, round down to the next integer.

(b) Original Five- or Six-Sensor System - Loss of center field sensor/station.

(c) Central Processing Unit (CPU).

(d) Loss of all displays.

NOTE: Facilities that provide windspeed and wind direction ONLY are not considered LLWAS facilities.

(2) **LLWS Reporting.** LLWAS information such as windspeed, direction, windshear, and/or microburst data provided to the Display Function Unit (DFU) located in the ATCT and TRACON is identified as LLWS. Service interruption reporting applies only to LLWS that support TDWR operation. The inability to present microburst and/or windspeed, wind direction, and windshear data to the DFU, with 1 minute updates, is a full LLWS interruption. An LLWS shall be established for the transfer of data to the ATCT.

(3) **WME Reporting.** WME is the Center Field Anemometer (CFA) which remains operational after decommissioning an LLWAS. Loss of data shall be reported as a full facility/service (FL) WME interruption.

(4) **TDWR Facility Reporting.** The TDWR facility provides radar information which is used for the detection of hazardous weather conditions. A full interruption report is required when the TDWR facility is unable to provide windshear and microburst information with 1 minute updates.

(5) **TDWRS Reporting.** TDWR service is microburst and windshear data provided to the DFU located at the ATCT or TRACON. The inability to present microburst and windshear information, or provide 1 minute updates, to the DFU(s) constitutes a full interruption. Loss of the Graphical Situation Display (GSD) would require TDWRS reduced facility/service interruption reporting. The use of LLWS data in absence of TDWR data requires full TDWRS reporting. For multiple display ethernet configuration locations, only one TDWRS shall be established. Individual services shall be established for the transfer of data to the ATCT and the TRACON facilities. The TDWRS ident shall be the same as the TDWR facility. Suffixes shall be applied in inverse alphabetical order to indicate multiple TDWR services from a single TDWR facility.

e. Next Generation Weather Radar (NXRAD), Principal User Processor (PUP) Reporting.

(1) **NXRAD Reporting.** NEXRAD is a doppler radar system that provides aviation weather data for display by the PUP at ARTCC locations. A full NXRAD interruption shall be reported when the system is unable to provide weather radar to the PUP system. The acronym "NXRAD" will be used for NEXRAD reporting.

(2) **PUP Reporting.** The PUP provides interim weather display capability for the NXRAD data products. The inability of the PUP facility to process data for display shall be reported as a full interruption. The display monitor is part of the PUP system.

f. Radar Remote Weather Display Indicator (RRWDI), Radar Remote Weather Display System (RRWDS) Reporting.

(1) **RRWDI Reporting.** The RRWDI processes and displays real-time weather information from selected FAA and National Weather Service radar sites. The inability of the RRWDI equipment to process and display weather information on all indicators is reportable as a full interruption.

(2) **RRWDS Reporting.** The complete failure of the RRWDS equipment to process and display real-time weather information to the RRWDI is reportable as a full interruption.

g. Weather Message Switching Center Replacement (WMSCR), WMSC Service (WMSCS), WMSCR Data (WDAT) Reporting.

(1) **WMSCR Reporting.** A full WMSCR interruption is defined as the failure of any equipment at WMSCR that prevents the collection, storage, and dissemination of weather data between circuits (Service A). Full WMSCR interruptions shall be reported.

(2) **WMSCS Reporting.** WMSCS is the service that provides processing and transfer of Service A data to the NADIN Switch. The inability of the WMSCS to process and transfer Service A data shall be reported as a full interruption. A WMSCS will exist for each switching center. WMSCS reporting responsibility is assigned to each switching center.

(3) **WDAT Reporting.** WDAT service is the data interchange capability between Atlanta and Salt Lake City weather message switching centers. A WDAT service interruption is the complete loss of this data interchange capability. WDAT reporting is assigned to the Atlanta switching center.

216. POWER FACILITY AND SERVICE REPORTING.

a. **Power Conditioning System (PCS) Reporting.** The PCS equipment is a stand-alone system provided at high priority facilities to ensure conditioned and continuous alternating current (AC) electrical power to critical loads. PCS includes the systems formerly known as uninterruptable power source (UPS). All interruptions of PCS equipment, shall be reported. A full interruption is defined as the complete loss of conditioned power on the critical bus.

b. **Power Conditioning System Service (PCSS) Reporting.** The PCSS is the service provided by the power conditioning system (PCS) at ARTCC, ARTS, and CERAP locations. PCSS is reportable when the PCS is out of service or is involved in a facility/service interruption.

c. **Engine Generator (SX) Reporting.** SX is the FSEP facility type for Engine Generator (E/G). All E/G outages, scheduled and unscheduled shall be reported using the SX facility type. In addition, the parent facility type that the E/G provides power to shall be entered into the equipment ident field in the NAPRS report. For additional reporting requirements refer to Chapter 4 of this order.

217. REMOTE MAINTENANCE MONITORING.

a. **Remote Maintenance Monitoring System (RMMS).** Maintenance Action Code "C" shall be used to designate use of RMMS in the following MMS entries:

(1) Log Type: LIR - Anytime a facility is restored using RMMS, a Maintenance Action Code "C" shall be used.

(2) Log Type: LPM - Anytime a PM is completed using RMMS, a Maintenance Action Code "C" shall be used and the LPM shall be made Nationally Reportable by using a Report Code of "N".

(3) Log Type: LCM - Anytime a CM is completed using RMMS, a Maintenance Action Code "C" shall be used and the LCM shall be made Nationally Reportable by using a Report Code of "N".

(4) Log Type: LCE - Anytime a certification is completed using RMMS, a Maintenance Action Code "C" shall be used and the LCM shall be made Nationally Reportable by using a Report Code of "N".

(5) Log Type: LRM - For each command issued on a RMMS facility, a LRM log is automatically generated. For each command used that eliminates a site visit to accomplish an action (i.e., reset, recycle, channel change, transfer to back up power source and commands issued in performance of periodic or corrective maintenance), the LRM shall be retrieved and coded for National reporting as follows:

(a) Retrieve facility LRMs by performing a Log Summary Report (LSR) for the period in which remote commands were performed. This report query may be generated by MMS User ID, Facility Type and Location Ident, and/or entry type (LRM).

(b) The population of the following fields in each LRM as described in Paragraph 217a(5) are necessary to track RMMS system performance and benefits:

- 1 *Facility/Service Type (FAC/SERV) and Location Identifier (LOC IDENT)
- 2 Short Name and Equipment Identifier (EQUIP IDENT)
- 3 Code Category (CODE CAT)
- 4 Supplement Code (SC)
- 5 Interrupt Condition (INT COND)
- 6 Maintenance Action Code (MAC)--fill in with "C" to designate RMM activity
- 7 Report Code (REP CODE)--fill in with "N" for National reporting
- 8 *Open/Start Date and Time
- 9 *Close/End Date and Time
- 10 Action--fill in with "C" to continue log without changing status
- 11 Password
- 12 Comments

NOTE: * These fields will be auto-populated by MMS.

218. LOG OF CORRECTIVE MAINTENANCE (LCM). All LCMs shall be entered and reported nationally. The entry of "N" in the Reporting Level Code (REP COD) field will enable each LCM report to be automatically forwarded to the headquarters' Maintenance Processor Subsystem (MPS).

a. The population of the following fields in MMS reports are necessary to support equipment performance trend analysis:

- (1) Facility/Service Type (FAC/SERV) and Location Identifier (LOC IDENT)

- (2) Short Name and Equipment Identifier (EQUIP IDENT)
- (3) Code Category (CODE CAT)
- (4) Supplemental Code (SC)
- (5) Report Code (REP COD fill in with an "N" for nationally reportable)
- (6) Open/Start Date and Time
- (7) Close/End Date and Time
- (8) Action
- (9) Password
- (10) Comments

b. The following fields are recommended for establishing local historical data

- (1) "FA/CA NUMBER"
- (2) Serial Number
- (3) Location
- (4) Description
- (5) Module Identifier
- (6) Manufacturer's Part Number

c. In the event that an interrupt creates a situation where there is no longer a redundant element available for on-line use, the statement "LOSS OF REDUNDANCY" shall be entered first in the comments field of the LCM. The LCM shall provide as much information as possible on the equipment in question; e.g., failed assembly, subassembly, part, etc. Also the letters "LOR" shall be included in the first 3 characters under the "DESC" field of the LCM.

219. ADDITIONAL LOG INTERRUPT REPORT (LIR) REQUIREMENTS.

a. The "Repair Time" field in an LIR is a required entry and shall be populated with the actual equipment repair time, minus any administrative, delayed restoration, travel, or logistics time.

b. In reporting outages during the implementation phase of either new hardware or software components, the use of the CAUSE/DESCRIPTION field in LIR reports shall be used. The term "IMP" shall be included in the first 3 characters under the "DESC" field of an LIR to designate that the outage was incurred during implementation.

220.-299. Reserved.

CHAPTER 3. REPORTABLE FACILITIES/SERVICES/EQUIPMENT

SECTION 1. FACILITIES AND SERVICES TO BE REPORTED

300. GENERAL. This chapter establishes reporting requirements for components of the NAS which are classified as reportable. It specifies the detailed data requirements for facility and service interruption reporting. The information reported serves as a basis for briefing top management levels in the field and FAA headquarters on trends which may cause additional problems in the NAS. These pertinent problems may then be used as the basis for national telecons, as well as for discussion with other significant NAS items.

301. REPORTABLE FACILITIES AND SERVICES. This paragraph identifies those facilities and service types designated as NAPRS reportable. Each region will only report facilities and services for which they have FSEP responsibilities. All interruptions of 1 minute or more in duration to facilities and services listed in paragraphs 301a and b shall be reported. Facilities and services identified with a (#) shall report ALL UNSCHEDULED interruptions regardless of the duration.

a. Reportable Facility Type.

Facility	Description
AFSS	Automated Flight Service Station
ALS	Approach Light System
ARSR	Air Route Surveillance Radar
# ARTS	Automated Radar Terminal System
ASDE	Airport Surface Detection Equipment
ASI	Altimeter Setting Indicator
ASOS	Automated Surface Observing System
ASR	Airport Surveillance Radar
ATCBI	Air Traffic Control Beacon Interrogator-Beacon Only Site
ATCRB	Air Traffic Control Radar Beacon-Collocated with ASR/ARSR
ATIS	Automatic Terminal Information System
AWOS	Automated Weather Observing System
AWP	Aviation Weather Processor
BRITE	Bright Radar Indicator Tower Equipment
BUEC	Backup Emergency Communications
# CCCH	Central Computer Complex Host
CD	Common Digitizer (Including ARSR-3 CD, see paragraph 206B)
# CDC	Computer Display Channel
CMLR	Communications Microwave Link Repeater
CMLT	Communications Microwave Link Terminal
# DARC	Direct Access Radar Channel
# DCCR	Display Channel Complex Rehost
DF	Direction Finder
DFI	Direction Finder Indicator
DME	Distance Measuring Equipment collocated with GS/LOC/VOR
DMER	Distance Measuring Equipment - TACR with DME only commissioned
# DSR	Display System Replacement
# EARTS	En Route Automated Radar Tracking System
FDIOC	Flight Data Input/Output Center

Facility	Description
FDIOR	Flight Data Input/Output Remote
FM	Fan Marker
FOTS	Fiber Optics Transmission System
FSDPS	Flight Service Data Processing System
GATR	Ground Air Transmit/Receive Facility
GS	Glide Slope
ICSS	Integrated Communications Switching System
IFF	Identification Friend or Foe, Military Mode 4 Processor
IM	Inner Marker
LDIN	Lead-In Lights
LLWAS	Low Level Windshear Alert System
LOC	Localizer
LOM	Compass Locator at the ILS Outer Marker
MALS	Medium-Intensity Approach/Light System
MALSR	Medium-Intensity Approach/Light System with RAIL
MEART	Micro En Route Automated Radar Tracking System
MIG	Common Digitizer Military Interface Group
MIM	Military Interface Modification on ARSR-3
MLSA	Microwave Landing System Azimuth
MLSBA	Microwave Landing System Back Azimuth
MLSD	Microwave Landing System Distance Measuring Equipment Precision
MLSE	Microwave Landing System Elevation
MLSF	Microwave Landing System Flare
MM	Middle Marker
MODES	Mode S Data Link
MPS	Maintenance Processor Subsystem
NADIN	National Data Interchange Network
NDB	Non Directional Beacon
NRCS	National Radio Communications System (HF SSB 1k Station only)
NXRAD	Next Generation Weather Data
ODALS	Omnidirectional Airport Lighting System
ODAPS	Oceanic Display and Planning System
OFDPS	Offshore Flight Data Processing System (ZHN only)
OM	Outer Marker
PCS	Power Conditioning System
PRM	Precision Runway Monitor
PUP	Principal User Processor
RBDPE	Radar Beacon Data Processor Equipment (TPX-42)
RCAG	Remote Center Air/Ground Communications Facility
RCLR	Radio Communications Link Repeater
RCLT	Radio Communications Link Terminal
RCO	Remote Communications Outlet
RMLR	Radar Microwave Link Repeater
RMLT	Radar Microwave Link Terminal
RRWDI	Radar Remote Weather Display Indicator
RRWDS	Radar Remote Weather Display System
RTR	Remote Transmitter/Receiver
RVR	Runway Visual Range

Facility	Description
SACOM	Satellite Communications Network
SALS	Short Approach Light System
SSALR	Simplified Short Approach Light System with RAIL
SSALS	Simplified Short Approach Light System
STARS	Standard Terminal Automation Replacement System
SX	Engine Generator
TACR	Tactical Air Navigation - Collocated with VOR
TDWR	Terminal Doppler Weather Radar
TMLI	Television Microwave Link Indicator
TMLR	Television Microwave Link Repeater
TMLT	Television Microwave Link Transmitter
TRVSS	Terminal Radar Video Switching System
TVS	Terminal Voice Switch
VEARS	VSCS Emergency Access Radio System
VOR	Very High Frequency Omnidirectional Range
VRS	Voice Recording System
VSCS	Voice Switching and Control System
VTABS	VSCS Training and Backup Switch
WME	Wind Measuring Equipment
WMSCR	Weather Message Switching Center Replacement

b. Reportable Service Types (Pseudo Facilities for Service).

Service	Description
ASDES	Airport Surface Detection Equipment Service
AWPC	Aviation Weather Processor/Concentrator
AWPI	Aviation Weather Processor Interface
AWPS	Aviation Weather Processor Service
AWPTE	Aviation Weather Processor Transfer - East
AWPTW	Aviation Weather Processor Transfer - West
BDAT	Beacon Data (Digitized)
BUECS	Backup Emergency Communications Service
# CFAD	Composite Flight Data Processing (FDP)
CFCS	Central Flow Control Service
CODAP	Composite Oceanic Display and Planning
COFAD	Composite Offshore Flight Data
# CRAD	Composite Radar Data Processing (RDP)
# DRAD	DARC Radar Data Processing
ECOM	En Route Communications
ERAD	En Route Radar (Broadband)
ESEC	En Route Secondary Radar Beacon (Broadband)
# ETARS	En Route Terminal Automated Radar Service
ETMS	Enhanced Traffic Management System
FCOM	Flight Service Station Communications
FDAT	Flight Data Entry and Printout (FDEP) Service
FSSAS	Flight Service Station Automated Service
FSSPS	Flight Service Station Processing Service

Service	Description
IDAT	Interfacility Data Service
LLWS	Low Level Wind Service
MDAT	Mode S Data Service
MPSS	Maintenance Processor Subsystem Service
MSEC	Mode S Secondary Radar
NADS	NADIN Switch
NAMS	NADIN Message Transfer Service
NDAT	NADIN Data Interchange Service
PCSS	Power Conditioning System Service (ARTCC, CERAP, and ARTS Facilities)
RDAT	Radar Data (Digitized)
RTADS	Remote Tower Alphanumeric Display Service
RTRDS	Remote Tower Radar Display Service
# TARS	Terminal Automated Radar Service
TCOM	Terminal Communications
TDWRS	Terminal Doppler Weather Radar Service
TRAD	Terminal Radar
TSEC	Terminal Secondary Radar
VSCSS	Voice Switching and Control System Service
WDAT	WMSC Data Service
WMSCS	Weather Message Switching Center Service

302.-310. **Reserved.**

SECTION 2. REDUCED OPERATION REPORTING

311. REDUCED FACILITY/SERVICE OPERATION. These are interruptions which affect only a part of the facility or service. For reporting purposes, a reduced facility/service (RS) operation exists when a facility or service is in use but is no longer capable of fulfilling its complete intended mission of full equipment availability (primary and redundant) or an AT manager/supervisor declares an operational impact due to a service degradation; such as, necessity to combine positions, delays of air traffic, and loss of essential ATC functions. The "RS" code shall be entered in the Interrupt Condition (IC) field of the LIR when reporting reduced facility/service operation. Some examples of reduced facility/service operation are:

- a. A Nonradar Keyboard Multiplexer (NRKM) fails and the spare NRKM is unavailable. A reduced CCCH/CFAD operation may exist until all required NRKMs are in the operational system.
- b. A Data Entry and Display System (DEDS) unit fails, but all other DEDS continue to operate normally. A reduced ARTS/TARS operation may exist until the spare DEDS is placed into the operational system.

NOTE: EARTS/Data Acquisition and Display System (DADES) and ARTS IIIA/IIIE/Full Digital ARTS Display (FDAD) subsystem are reported in the same manner as DEDS.

- c. A Display Character Vector Generator (DCVG) fails and a spare is not available or if available does not function properly. The Plan View Display (PVD) associated with the DCVG are inoperative and may create a reduced CDC/DCC/DARC/CRAD/DRAD operation until a spare DCVG is placed into service.

d. An ANK/RANK fails at a tower or IFR room having more than one ANK/RANK; a reduced facility/service operation may exist until the failed ANK/RANK is repaired or replaced.

NOTE: If the FDIOR facility has only one RANK, a complete interruption would be reported.

e. ALS, MALSR, or SSALR can have the flasher portion of the system fail and still operate as an ALS, MALS, or SSALS. A dual-mode ALS could operate as an SSALR if the ALS requirement cannot be met. Also, the dual-mode ALS could operate as an ALS if the SSALR requirement cannot be met. In either case, the ALS will be reported as a reduced facility/service indicating the failed system in the description field of the NAPRS report.

f. A Disk Control Unit (DCU) fails and the spare DCU fails to operate properly; a reduced facility/service operation may exist until the DCU is repaired or an operational spare is placed into service.

g. An Input/Output Processor (IOP) at an ARTS facility fails and the spare IOP is inoperative. At facilities where more than two IOPs are installed, a reduced facility/service operation may exist.

h. A loss of one radar at a dual radar ARTS facility may result in reduced service operation for the TARS but the affected TRAD/TSEC shall be reported as a full interruption.

i. A reduction to a lower level software program at an ARTS/EARTS display facility may result in reduced facility/service operation.

j. A partial loss of beacon tracking capability at an ARTS IIIA facility may result in reduced facility/service operation.

k. A loss of the interface between the ARTS and ARTCC may be reported as a reduced service operation for TARS but the affected IDAT shall be reported as a full interruption.

l. A reduced service condition may exist for the FSSAS if one of the following conditions are met (these examples are not to be considered all inclusive):

(1) Longer equipment response times.

(2) Loss of an FSDPS CPU, causing the slow down of operational software data processing capabilities.

(3) Loss of one or more of the 9600 bits per second (b/s) communication lines between the FSDPS and an AFSS.

(4) Loss of some displays at the AFSS.

m. An ASR-9 facility is supporting two locations. Each location is provided a separate TRAD service. Failure of modems at the radar site interrupted the TRAD service to one location and not to the other. Since the ASR-9 facility is still providing TRAD service to at least one location, an ASR reduced facility/service report is required along with the appropriate full TRAD service report.

NOTE: Extensive use of comments are required when reporting reduced facility/service operation so circumstances which caused the event are clearly understood.

312.-315. **Reserved**

SECTION 3. UNIQUE AUTOMATION REPORTING REQUIREMENTS

316. **GENERAL.** With the exception of expected interruptions during coordinated online certification, all interruptions, including those that do not affect the ATC display subsystem, shall be reportable. A series of consecutive interruptions where recovery did not result shall be reported as one incident. Total time of the interruption shall be reported as accurately as possible. (See the NAPRS/MMS User's Guide for format and examples.)

- a. Recovery Modes – All types of recovery modes shall be included in interruption reports.
- b. Abort Conditions – All types of abort conditions shall be included in interruption reports.
- c. Interrupts – All types of interrupts shall be included in interruption reports.
- d. Scatters – All unscheduled scatters shall be reported regardless of duration and be included in interruption reports.

317.-399. **Reserved.**

CHAPTER 4. FACILITY POWER AND SUPPORT SYSTEMS

400. INTRODUCTION. Requests to provide performance information on failures of systems such as engine generators has resulted in the enhancement of interruption reporting procedures. Performance figures are essential for Congressional issues, budgetary support, and upward reporting of FAA Management. All support systems vital to a facility's operation are identified as Facility Power and Support Systems. Examples of Facility Power and Support Systems are Engine Generators (SX), Heating, Ventilation, and Air Conditioning (HVAC), Power Distribution Panels, etc. This chapter establishes procedures for reporting failures and malfunctions of those systems, and provides a definition of terms and codes applicable for Facility Power and Support System interruption reporting.

401. ENHANCED INTERRUPTION REPORTING. The reporting of facility and service failures caused by facility support systems is enhanced by the use of the "cause" and "description" fields on the LIR.

402. APPLICABLE CATEGORIES AND CODES. Standard cause codes apply to facility/service failures caused by Facility Power and Support Systems with the addition of codes used in the supplemental, cause, and description fields of the LIR. Facility Power and Support Systems failures that result in interruption reporting will have an "F" entered in the supplemental cause code field (SC on the LIR). "Cause" and "description" fields identified in this chapter shall be entered in the "CAUSE/DESCRIPTION" fields on the LIR. This chapter identifies cause and description field codes that shall be used for Facility Power and Support Systems interruption reporting. Applicable cause codes (CODE CAT on the LIR), for this type reporting are 60, 62, 64, 65, 80, 82, and 83. All supplemental and, cause/description codes are headed by the appropriate cause code (CODE CAT). For simplification, separate pages are identified for each individual cause code (CODE CAT). When reporting an interruption, select the codes that most closely identify the cause of the event.

NOTE: In this directive, "Cause code" and "Cause" fields are different elements. Standard cause codes are found in Chapter 2, paragraph 205. Cause fields are identified on the following pages.

MAINTENANCE MANAGEMENT SYSTEM INTERRUPT REPORT										TIME	
DATE											
LOG ID NUMBER: _____ (____ OF ____)										RELATED LOG ID: _____	
										ENTRY TYPE: LIR STATUS:	
FAC/ SERV	LOC IDENT	SHORT NAME	EQUIP IDENT	CODE CAT	SC	INT COND	MAC	REP COD	MM DD YY	HH MM SS	
SERVICE FAULT LOC: CAUSE/DESCRIPTION: ____ / _____						PRIME RECOVERY MODE: ____					
FA/CA NUMBER				EQUIP SER NO				REP TIME: HH MM			
		ENTRY/CLOSE:				USER ID		ACTION		PASSWORD	
		MM DD YY		HH MM SS							
COMMENTS: _____											
F1-GO TO _____ F2-HELP F3-LOG MENU F4-MMS MENU F5-ALARM F6-LOGOFF F7-RETRIEVE F8-ADD SF2-NEXT PAGE SF4-GET EQUIP SF5-RETURN SF8-COMMENTS SF10-VOID											

Figure 4-1. Log Interrupt Report.

Cause Code: 60 - PERIODIC MAINTENANCE

(1) Supplemental Cause Code: F
Facility Power and Support Systems

(a) Cause Field: HC - HVAC**Description Field:**

CME Chiller Mechanical/Electrical
CSS Chiller Safety Shutdown
PEC Pneumatic/Electric Control
AH Air Handler
SB Steam Boiler
HWB Hot Water Boiler
CT Cooling Tower
WAC Window Air Conditioning
VC Ventilation Component
ACCC A/C Circuit/Component
HEAT Heating Component
FM Fan Motor
CMP A/C Compressor
TH Thermostat

(b) Cause Field: CM - Control and Monitoring Systems**Description Field:**

CPU Computer Processor Unit
DGP Data Gathering Panel
RMS Remote Monitoring System
MI Monitor Interface
OT Other

(c) Cause Field: PS - Power Panel and Switch Gear**Description Field:**

CB Circuit Breaker
MCC Motor Control Center
TS Transfer Switch
XFMR Transformer
MES Main Entrance Switch
DP Distribution Panel
SI Sync Inverter
OT Other

(d) Cause Field: EG - Engine Generators**Description Field:**

MC Mechanical Component
SSD Safety Shutdown
SS Starting System
CS Cooling System
FS Fuel System
EC Electrical Component
CP Control Panel
LS Load Sharing
GC Generator Component
STB Starting Batteries
TS Transfer Switch
BIS Bypass/Isolation Switch
RS Remote Start
IH Immersion Heater
EF Exhausted Fuel
RC Rectifier/Charger
GSC Governor System Component
VR Voltage Regulator
SC Synchronizer Circuit
OT Other

(e) Cause Field: DC - Direct Current Power Systems**Description Field:**

RC Rectifier/Charger
BB Battery Bank
DS Distribution System
BE Battery Charge Exhausted
OT Other

(f) Cause Field: UP - UPS / PCS**Description Field:**

MC Module/Component
LS Load Sharing
LC Logic Card
BB Battery Bank
SSD Safety Shutdown
BIS Bypass/Isolation SWITCH
BE Battery Charge Exhausted
OT Other

Cause Code: 62 - IMPROVEMENTS

(2) Supplemental Cause Code: F
Facility Power and Support Systems

(a) Cause Field: **HC - HVAC**

Description Field:

CME	Chiller Mechanical/Electrical
CSS	Chiller Safety Shutdown
PEC	Pneumatic/Electric Control
AH	Air Handler
SB	Steam Boiler
HWB	Hot Water Boiler
CT	Cooling Tower
WAC	Window Air Conditioning
VC	Ventilation Component
ACCC	A/C Circuit/Component
HEAT	Heating Component
FM	Fan Motor
CMP	A/C Compressor
TH	Thermostat

(b) Cause Field: **CM - Control and Monitoring Systems**

Description Field:

CPU	Computer Processor Unit
DGP	Data Gathering Panel
RMS	Remote Monitoring System
MI	Monitor Interface
OT	Other

(c) Cause Field: **PS - Power Panel and Switch Gear**

Description Field:

CB	Circuit Breaker
MCC	Motor Control Center
TS	Transfer Switch
XFMR	Transformer
MES	Main Entrance Switch
DP	Distribution Panel
SI	Sync Inverter
OT	Other

(d) Cause Field: **CD - Cable Distribution**

Description Fields:

PC	Power Cables
CC	Control Cables
SF	Splice Failure
SC	Severed Cable
OT	Other

(e) Cause Field: **EG - Engine Generators**

Description Field:

MC	Mechanical Component
SSD	Safety Shutdown
SS	Starting System
CS	Cooling System
FS	Fuel System
EC	Electrical Component
CP	Control Panel
LS	Load Sharing
GC	Generator Component
STB	Starting Batteries
TS	Transfer Switch
BIS	Bypass/Isolation Switch
RS	Remote Start
IH	Immersion Heater
EF	Exhausted Fuel
RC	Rectifier/Charger
GSC	Governor System Component
VR	Voltage Regulator
SC	Synchronizer Circuit
OT	Other

(f) Cause Field: **DC - Direct Current Power Systems**

Description Field:

RC	Rectifier/Charger
BB	Battery Bank
DS	Distribution System
BE	Battery Charge Exhausted
OT	Other

(g) Cause Field: **UP - UPS / PCS**

Description Field:

MC	Module/Component
LS	Load Sharing
LC	Logic Card
BB	Battery Bank
SSD	Safety Shutdown
BIS	Bypass/Isolation SWITCH
BE	Battery Charge Exhausted
OT	Other

Cause Code: 64 - ADMINISTRATIVE

(3) Supplemental Cause Code: F
Facility Power and Support Systems

(a) Cause Field: HC - HVAC

Description Field:

CME	Chiller Mechanical/Electrical
CSS	Chiller Safety Shutdown
PEC	Pneumatic/Electric Control
AH	Air Handler
SB	Steam Boiler
HWB	Hot Water Boiler
CT	Cooling Tower
WAC	Window Air Conditioning
VC	Ventilation Component
ACCC	A/C Circuit/Component
HEAT	Heating Component
FM	Fan Motor
CMP	A/C Compressor
TH	Thermostat

(b) Cause Field: CM - Control and Monitoring Systems

Description Field:

CPU	Computer Processor Unit
DGP	Data Gathering Panel
RMS	Remote Monitoring System
MI	Monitor Interface
OT	Other

(c) Cause Field: PS - Power Panel and Switch Gear

Description Field:

CB	Circuit Breaker
MCC	Motor Control Center
TS	Transfer Switch
XFMR	Transformer
MES	Main Entrance Switch
DP	Distribution Panel
SI	Sync Inverter
OT	Other

(d) Cause Field: CD - Cable Distribution

Description Fields:

PC	Power Cables
CC	Control Cables
SF	Splice Failure
SC	Severed Cable
OT	Other

(e) Cause Field: EG - Engine Generators

Description Field:

MC	Mechanical Component
SSD	Safety Shutdown
SS	Starting System
CS	Cooling System
FS	Fuel System
EC	Electrical Component
CP	Control Panel
LS	Load Sharing
GC	Generator Component
STB	Starting Batteries
TS	Transfer Switch
BIS	Bypass/Isolation Switch
RS	Remote Start
IH	Immersion Heater
EF	Exhausted Fuel
RC	Rectifier/Charger
GSC	Governor System Component
VR	Voltage Regulator
SC	Synchronizer Circuit
OT	Other

(f) Cause Field: DC - Direct Current Power Systems

Description Field:

RC	Rectifier/Charger
BB	Battery Bank
DS	Distribution System
BE	Battery Charge Exhausted
OT	Other

(g) Cause Field: UP - UPS / PCS

Description Field:

MC	Module/Component
LS	Load Sharing
LC	Logic Card
BB	Battery Bank
SSD	Safety Shutdown
BIS	Bypass/Isolation SWITCH
BE	Battery Charge Exhausted
OT	Other

Cause Code: 65 - Corrective Maintenance

(4) Supplemental Cause Code: F
Facility Power and Support Systems

(a) Cause Field: HC - HVAC**Description Field:**

CME Chiller Mechanical/Electrical
CSS Chiller Safety Shutdown
PEC Pneumatic/Electric Control
AH Air Handler
SB Steam Boiler
HWB Hot Water Boiler
CT Cooling Tower
WAC Window Air Conditioning
VC Ventilation Component
ACCC A/C Circuit/Component
HEAT Heating Component
FM Fan Motor
CMP A/C Compressor
TH Thermostat

(b) Cause Field: CM - Control and Monitoring Systems**Description Field:**

CPU Computer Processor Unit
DGP Data Gathering Panel
RMS Remote Monitoring System
MI Monitor Interface
OT Other

(c) Cause Field: PS - Power Panel and Switch Gear**Description Field:**

CB Circuit Breaker
MCC Motor Control Center
TS Transfer Switch
XFMR Transformer
MES Main Entrance Switch
DP Distribution Panel
SI Sync Inverter
OT Other

(d) Cause Field: CD - Cable Distribution**Description Fields:**

PC Power Cables
CC Control Cables
SF Splice Failure
SC Severed Cable
OT Other

(e) Cause Field: EG - Engine Generators**Description Field:**

MC Mechanical Component
SSD Safety Shutdown
SS Starting System
CS Cooling System
FS Fuel System
EC Electrical Component
CP Control Panel
LS Load Sharing
GC Generator Component
STB Starting Batteries
TS Transfer Switch
BIS Bypass/Isolation Switch
RS Remote Start
IH Immersion Heater
EF Exhausted Fuel
RC Rectifier/Charger
GSC Governor System Component
VR Voltage Regulator
SC Synchronizer Circuit
OT Other

(f) Cause Field: DC - Direct Current Power Systems**Description Field:**

RC Rectifier/Charger
BB Battery Bank
DS Distribution System
BE Battery Charge Exhausted
OT Other

(g) Cause Field: UP - UPS / PCS**Description Field:**

MC Module/Component
LS Load Sharing
LC Logic Card
BB Battery Bank
SSD Safety Shutdown
BIS Bypass/Isolation SWITCH
BE Battery Charge Exhausted
OT Other

Cause Code: 80 - Equipment Failure

(5) Supplemental Cause Code: F

Facility Power and Support Systems

(a) Cause Field: **HC** - HVAC

Description Field:

CME	Chiller Mechanical/Electrical
CSS	Chiller Safety Shutdown
PEC	Pneumatic/Electric Control
AH	Air Handler
SB	Steam Boiler
HWB	Hot Water Boiler
CT	Cooling Tower
WAC	Window Air Conditioning
VC	Ventilation Component
ACCC	A/C Circuit/Component
HEAT	Heating Component
FM	Fan Motor
CMP	A/C Compressor
TH	Thermostat

(b) Cause Field: **CM** - Control and Monitoring Systems

Description Field:

CPU	Computer Processor Unit
DGP	Data Gathering Panel
RMS	Remote Monitoring System
MI	Monitor Interface
OT	Other

(c) Cause Field: **PS** - Power Panel and Switch Gear

Description Field:

CB	Circuit Breaker
MCC	Motor Control Center
TS	Transfer Switch
XFMR	Transformer
MES	Main Entrance Switch
DP	Distribution Panel
SI	Sync Inverter
OT	Other

(d) Cause Field: **CD** - Cable Distribution

Description Fields:

PC	Power Cables
CC	Control Cables
SF	Splice Failure
SC	Severed Cable
OT	Other

(e) Cause Field: **EG** - Engine Generators

Description Field:

MC	Mechanical Component
SSD	Safety Shutdown
SS	Starting System
CS	Cooling System
FS	Fuel System
EC	Electrical Component
CP	Control Panel
LS	Load Sharing
GC	Generator Component
STB	Starting Batteries
TS	Transfer Switch
BIS	Bypass/Isolation Switch
RS	Remote Start
IH	Immersion Heater
EF	Exhausted Fuel
RC	Rectifier/Charger
GSC	Governor System Component
VR	Voltage Regulator
SC	Synchronizer Circuit
OT	Other

(f) Cause Field: **DC** - Direct Current Power Systems

Description Field:

RC	Rectifier/Charger
BB	Battery Bank
DS	Distribution System
BE	Battery Charge Exhausted
OT	Other

(g) Cause Field: **UP** - UPS / PCS

Description Field:

MC	Module/Component
LS	Load Sharing
LC	Logic Card
BB	Battery Bank
SSD	Safety Shutdown
BIS	Bypass/Isolation SWITCH
BE	Battery Charge Exhausted
OT	Other

11/20/99

6040.15D

Cause Code: 82 - Prime Power

(6) Supplemental Cause Code: **F**

Facility Power and Support Systems

(a) Cause Field: **PS** - Power Panel and Switch Center

Description Field:

CB	Circuit Breaker
MCC	Motor Control Center
TS	Transfer Switch
XFMR	Transformer
MES	Main Entrance Switch
DP	Distribution Panel
SI	Sync Inverter
OT	Other

(b) Cause Field: **CD** - Cable Distribution

Description Fields:

PC	Power Cables
CC	Control Cables
SF	Splice Failure
SC	Severed Cable
OT	Other

(c) Cause Field: **PI** - Power Interruption/Spikes/Fluctuations

Description Fields:

MU	Main Utility
US	Utility Substation
UX	Utility Transformer
FS	FAA Substation
FT	FAA Transformer
OT	Other

(d) Cause Field: **EG** - Engine Generators

Description Field:

MC	Mechanical Component
SSD	Safety Shutdown
SS	Starting System
CS	Cooling System
FS	Fuel System
EC	Electrical Component
CP	Control Panel
LS	Load Sharing
GC	Generator Component
STB	Starting Batteries
TS	Transfer Switch
BIS	Bypass/Isolation Switch
RS	Remote Start
IH	Immersion Heater
EF	Exhausted Fuel
RC	Rectifier/Charger
GSC	Governor System Component
VR	Voltage Regulator
SC	Synchronizer Circuit
OT	Other

Cause Code: 83 - Stand-by Power

(7) Supplemental Cause Code: F
Facility Power and Support Systems

(a) Cause Field: PS - Power Panel and Switch Center

Description Field:

CB Circuit Breaker
MCC Motor Control Center
TS Transfer Switch
XFMR Transformer
MES Main Entrance Switch
DP Distribution Panel
SI Sync Inverter
OT Other

(b) Cause Field: CD - Cable Distribution

Description Fields:

PC Power Cables
CC Control Cables
SF Splice Failure
SC Severed Cable
OT Other

(c) Cause Field: PI - Power Interruption/Spikes/Fluctuations

Description Fields:

MU Main Utility
US Utility Substation
UX Utility Transformer
FS FAA Substation
FT FAA Transformer
OT Other

(d) Cause Field: EG - Engine Generators

Description Field:

MC Mechanical Component
SSD Safety Shutdown
SS Starting System
CS Cooling System
FS Fuel System
EC Electrical Component
CP Control Panel
LS Load Sharing
GC Generator Component
STB Starting Batteries
TS Transfer Switch
BIS Bypass/Isolation Switch
RS Remote Start
IH Immersion Heater
EF Exhausted Fuel
RC Rectifier/Charger
GSC Governor System Component
VR Voltage Regulator
SC Synchronizer Circuit
OT Other

403. FACILITY POWER AND SUPPORT SYSTEM REPORTING IN MMS. This section is provided to assist in the use of interruption codes, described earlier in this chapter. Below is an example of Log Interrupt Report (LIR) records created for the following interruption scenarios:

a. A commercial power failure at 2000Z resulted in the facility's engine generator assuming the load at the ABC ASR. At 2142Z the engine generator shut down due to excessive heat. Commercial power returned to the facility at 2205Z. A cooling system failure was found to be the cause of the engine generator's overheating. The cooling system failure was repaired at 2350Z. This will close the SX MMS LIR entry. (See figure 4-2.1) The LIR for this scenario would be as follows:

MAINTENANCE MANAGEMENT SYSTEM INTERRUPT REPORT																					
DATE:										TIME:											
LOG ID NUMBER: <u>ZYZ</u> <u>97</u> <u>29387</u> (<u>1</u> OF <u>1</u>)										RELATED LOG ID: _____				ENTRY TYPE: LIR STATUS:							
FAC/	LOC	SHORT	EQUIP	CODE	INT	REP	MAC	REP	MM	DD	YY	HH	MM	SS							
SERV	IDENT	NAME	IDENT	CAT	SC	COND		COD													
<u>ASR</u>	<u>ABC</u>			<u>83</u>	<u>F</u>	<u>FL</u>		<u>N</u>	<u>02</u>	<u>14</u>	<u>97</u>	<u>21</u>	<u>42</u>	<u>00</u>							
SERVICE FAULT LOC: _____										PRIME RECOVERY MODE: _____											
CAUSE/DESCRIPTION: <u>EG/CS</u>																					
FA/CA NUMBER				EQUIP SER NO				REP TIME: HH MM													
ENTRY/CLOSE:										USER ID				ACTION				PASSWORD			
MM DD YY HH MM SS																					
<u>02 14 97 22 05 00</u>																					
COMMENTS: _____																					
F1=GO TO F2=HELP F3=LOG MENU F4=MMS MENU F5=ALARM F6=LOGOFF F7=RETRIEVE F8=ADD SF2=NEXT PAGE SF4=GET EQUIP SF5=RETURN SF8=COMMENTS SF10=VOID																					

Figure 4-2.1 Sample Parent Facility LIR, Unscheduled Interruption.

NOTE: In addition to the report for the ASR, interruption reports for ABC ATCRB/MODES, ABC TRAD, and ABC TSEC/MSEC would also be entered into MMS. Each of these subsequent reports would indicate the failure of the engine generator cooling system.

MAINTENANCE MANAGEMENT SYSTEM INTERRUPT REPORT																					
DATE:										TIME:											
LOG ID NUMBER: <u>ZYZ</u> <u>97</u> <u>29388</u> (<u>1</u> OF <u>1</u>)										RELATED LOG ID: _____				ENTRY TYPE: LIR STATUS:							
FAC/	LOC	SHORT	EQUIP	CODE	INT	REP	MAC	REP	MM	DD	YY	HH	MM	SS							
SERV	IDENT	NAME	IDENT	CAT	SC	COND		COD													
<u>SX</u>	<u>ABC</u>		<u>ASR</u>	<u>80</u>	<u>F</u>	<u>FL</u>		<u>N</u>	<u>02</u>	<u>14</u>	<u>97</u>	<u>21</u>	<u>42</u>	<u>00</u>							
SERVICE FAULT LOC: _____										PRIME RECOVERY MODE: _____											
CAUSE/DESCRIPTION: <u>EG/CS</u>																					
FA/CA NUMBER				EQUIP SER NO				REP TIME: HH MM													
ENTRY/CLOSE:										USER ID				ACTION				PASSWORD			
MM DD YY HH MM SS																					
<u>02 14 97 23 50 00</u>																					
COMMENTS: _____																					
F1=GO TO F2=HELP F3=LOG MENU F4=MMS MENU F5=ALARM F6=LOGOFF F7=RETRIEVE F8=ADD SF2=NEXT PAGE SF4=GET EQUIP SF5=RETURN SF8=COMMENTS SF10=VOID																					

Figure 4-2.2 Sample SX LIR, Unscheduled Interruption.

NOTE: In addition to the SX LIR entry, an SX LCM shall be generated.

b. The XYZ VORTAC was removed from service to perform annual maintenance on the main entrance switch. The LIR for this scenario would be as follows:

MAINTENANCE MANAGEMENT SYSTEM INTERRUPT REPORT														
DATE:						TIME:								
RELATED LOG ID: _____														
LOG ID NUMBER: <u>ZXX</u> <u>97</u> <u>80231</u> (<u>1</u> OF <u>1</u>)						ENTRY TYPE: LIR				STATUS:				
FAC/ SERV	LOC IDENT	SHORT NAME	EQUIP IDENT	CODE CAT	INT SC	COND FL	MAC	REP COD	MM	DD	YY	HH	MM	SS
<u>VOR</u>	<u>XYZ</u>			<u>60</u>	<u>F</u>	<u>FL</u>		<u>N</u>	<u>04</u>	<u>05</u>	<u>97</u>	<u>12</u>	<u>37</u>	<u>00</u>
SERVICE FAULT LOC: _____						PRIME RECOVERY MODE: _____								
CAUSE/DESCRIPTION: <u>PS / MES</u>														
FA/CA NUMBER				EQUIP SER NO				REP TIME: HH MM						
				ENTRY/CLOSE:										
				MM DD YY HH MM SS				USER ID ACTION PASSWORD						
				<u>04 05 97 13 51 00</u>										
COMMENTS: _____														
F1=GO TO F2=HELP F3=LOG MENU F4=MMS MENU F5=ALARM F6=LOGOFF F7=RETRIEVE														
F8=ADD SF2=NEXT PAGE SF4=GET EQUIP SF5=RETURN SF8=COMMENTS SF10=VOID														

Figure 4-3. Sample LIR, Scheduled Interruption.

NOTE: In addition to the report for the VOR, an interruption report for the TACR would also be made. When multiple facilities/services are interrupted, each LIR will indicate the corrective maintenance of the main entrance switch as the cause of the scheduled event.

c. XYZ BUEC facility has a PCS for standby power. At 1015Z commercial power failed and the PCS failed to assume the load. The PCS failure was caused by a faulty bypass switch. Commercial power was restored at 1417Z. The PCS was restored at 1715Z.

MAINTENANCE MANAGEMENT SYSTEM INTERRUPT REPORT														
DATE:										TIME:				
LOG ID NUMBER: <u>ZXX</u> <u>97</u> <u>80232</u> (<u>1</u> OF <u>1</u>)										RELATED LOG ID: _____				
ENTRY TYPE: LIR										STATUS:				
FAC/	LOC	SHORT	EQUIP	CODE	INT	REP	MAC	COD	MM	DD	YY	HH	MM	SS
SERV	IDENT	NAME	IDENT	CAT	SC	COND								
BUEC	XYZ			83	F	FL		N	09	25	97	10	15	00
SERVICE FAULT LOC:										PRIME RECOVERY MODE: _____				
CAUSE/DESCRIPTION: <u>UP / BIS</u>														
FA/CA NUMBER			EQUIP SER NO			REP TIME: HH MM								
ENTRY/CLOSE:														
MM	DD	YY	HH	MM	SS	USER ID			ACTION			PASSWORD		
09	25	97	14	17	00									
COMMENTS: _____														
F1=GO TO F2=HELP F3=LOG MENU F4=MMS MENU F5=ALARM F6=LOGOFF F7=RETRIEVE F8=ADD SF2=NEXT PAGE SF4=GET EQUIP SF5=RETURN SF8=COMMENTS SF10=VOID														

Figure 4-4.1 Sample BUEC LIR, Unscheduled Interruption.

MAINTENANCE MANAGEMENT SYSTEM INTERRUPT REPORT														
DATE:										TIME:				
LOG ID NUMBER: <u>ZXX</u> <u>97</u> <u>80233</u> (<u>1</u> OF <u>1</u>)										RELATED LOG ID: _____				
ENTRY TYPE: LIR										STATUS:				
FAC/	LOC	SHORT	EQUIP	CODE	INT	REP	MAC	COD	MM	DD	YY	HH	MM	SS
SERV	IDENT	NAME	IDENT	CAT	SC	COND								
PCS	XYZ			80	F	FL		N	09	25	97	10	15	00
SERVICE FAULT LOC:										PRIME RECOVERY MODE: _____				
CAUSE/DESCRIPTION: <u>UP / BIS</u>														
FA/CA NUMBER			EQUIP SER NO			REP TIME: HH MM								
ENTRY/CLOSE:														
MM	DD	YY	HH	MM	SS	USER ID			ACTION			PASSWORD		
09	25	97	17	15	00									
COMMENTS: _____														
F1=GO TO F2=HELP F3=LOG MENU F4=MMS MENU F5=ALARM F6=LOGOFF F7=RETRIEVE F8=ADD SF2=NEXT PAGE SF4=GET EQUIP SF5=RETURN SF8=COMMENTS SF10=VOID														

Figure 4-4.2 Sample PCS LIR, Unscheduled Interruption.

NOTE: In addition to the report for the BUEC and the PCS, an interruption report for the BUECS would also be made. The failed facility shall have an LCM associated with the LIR entry (i.e.: PCS).

404.-450. Reserved.

CHAPTER 5. ANALYSIS OF FACILITY/SERVICE PERFORMANCE

500. **GENERAL.** This chapter provides general guidelines for monitoring and analyzing facility/service performance for all levels of AF and AT management. Analysis of performance data is a continuous activity to detect and isolate problem areas in the NAS.

501. **ANALYSIS OF PERFORMANCE.** All data must be considered and presented when performing analysis to ensure that results contain the complete picture and not exclude any one part which could lead to misunderstanding of the information. This is particularly true in NAPRS where complete interruptions, reduced facility/service operation, and equipment failures are reportable and can be independent of each other. For example, if a facility type reflects a high level of reliability based upon complete interruptions, but information is available that identified equipment problems or partial loss of service to the user, identifying reliability alone can lead to a less-than-complete picture of the performance.

a. **Source of Data.** National, regional, and field level activities have distinct requirements for performance reports to assist in monitoring and analyzing facility and service performance. The NAPRS data retrieval system will provide the flexibility for individual requirements at all levels. Data required for the specific reports may be extracted from MMS and NASPAS Programs. These reports are identified in Appendix 3, Summary of NASPAS Performance Reports, of this order.

b. **Performance Charts.** The intent of charting is to provide AF personnel means of assessing facility or service performance data relative to the national or regional average; whichever the case may be. There is no national requirement of charting or posting individual performance data.

c. **Results of Analysis.** Results of analysis are intended to be used for:

- (1) Detecting trends in facility/service performance.
- (2) Improving performance of all facilities and services.
- (3) Modifying of existing equipment.
- (4) Detecting logistic support problems.
- (5) Evaluating the effect of software changes or hardware modifications on automation equipment.
- (6) Assisting management in evaluating the field maintenance program.

502. **FACILITY AND SERVICE PERFORMANCE INDICATORS.** There are several indicators used in analyzing facility and service performance. The general mathematical formulas in this section identify those indicators used in this analysis. Special instructions for en route and terminal communications and TELCO line performance analysis can be found in paragraphs 503 and 504 of this chapter, respectively. Maximum available time will always be computed on a 24-hour day for all facilities and services. Total time out of service is based upon the sum of scheduled and unscheduled causes when computing availability, reliability, and mean time between outages (MTBO). For the purposes of computations, the average population count for the period is used. In addition, all performance reports and computations shall be based upon full interruptions of 1 minute or more unless specified otherwise. The below listed

performance indicators will be used to provide analysis using interruption event times for facilities/services as well as resultant times for services. This should result in a true performance picture of individual facility/service performance as well as how well our backup systems perform.

a. **Average Number of Outages per Facility/Service Type.** This is derived by dividing the indicated number of outages by the average number of facilities/services in place.

b. **Operational Availability (Aop).** Aop is the ratio of total operating facility/service hours to maximum facility/service hours, expressed as a percentage and derived by the following calculation.

$$\text{Aop} = \frac{(\text{Maximum available time}) - (\text{Total time out of service})}{\text{Maximum available time}} \times 100$$

c. **Adjusted Availability (Aad).** Aad is the ratio of adjusted operating facility/service hours to maximum facility/service hours, expressed as a percentage and derived by the following calculation.

$$\text{Aad} = \frac{(\text{Maximum available time}) - (\text{adjusted time out of service})}{\text{Maximum available time}} \times 100$$

NOTE: Adjusted operating facility/service hours (adjusted time out of service) is total operating time minus total down time plus improvement time (Code 62).

d. **Equipment and Service Availability (Aes).** Aes is the ratio of maximum facility/service hours minus unscheduled hours to maximum facility/service hours, expressed as a percentage and derived by the following calculation.

$$\text{Aes} = \frac{(\text{Maximum available time}) - (\text{Total unscheduled time})}{\text{Maximum available time}} \times 100$$

e. **Unscheduled Mean Time Between Outages (MTBO).** Unscheduled MTBO represents the mean (average) operating facility/service time between unscheduled outages and is derived by the following calculation:

$$\text{MTBO} = \frac{(\text{Maximum available time}) - (\text{Total unscheduled time out of service})}{\text{No. of unscheduled outages}}$$

f. **Reliability (R).** Reliability is defined as the probability that a facility/service will perform its intended mission for the given mission time, expressed as a percentage and derived by the following calculations:

$$R = e^{(-t/\text{MTBO})} \times 100$$

where t = mission time (24 hours), and e = 2.71828

g. **Unscheduled Mean Time to Restore (MTTR).** Unscheduled MTTR represents the average duration per unscheduled outages and is derived by the following calculations:

$$\text{MTTR} = \frac{\text{Total unscheduled outage time}}{\text{No. of unscheduled outages}}$$

503. EN ROUTE AND TERMINAL COMMUNICATIONS PERFORMANCE INDICATORS.

Since the performance data for en route and terminal communications is on a per frequency basis, additional steps are necessary in order to obtain the performance indicator desired. The maximum number of available frequency hours in a report period is derived by multiplying the number of hours in a day (24) by the number of days in the report period, the result of which is multiplied by the average number of frequencies in place. The average number of frequencies in place is determined by adding the frequencies in place for each commissioned month and dividing by the number of commissioned months. The number of frequencies in place at the beginning of any month is the number reported in the FSEP for the preceding month. The following mathematical formulas are provided for use in deriving performance information for en route and terminal communications.

a. **Average Number of Outages per Frequency.** This is derived by dividing the number of frequency outages by the average number of frequencies in place.

b. **Operational Availability (Aop).** Aop is the ratio of the total operating hours for the average number of frequencies in place, minus the total frequency outage time, to the total operating hours for the number of frequencies in places. This quantity is expressed as a percentage and derived by the following calculation.

$$\text{Aop} = \frac{[(\text{Max avail time}) \times (\text{Avg. no. freqs. in place}) - (\text{Total freqs. outage time})]}{(\text{Max avail time}) \times (\text{Avg. no. of freqs. in place})} \times 100$$

c. **Adjusted Availability (Aad).** Aad is the ratio of the maximum time available times average number of frequencies in place, minus the adjusted frequency outage time, to the quantity maximum time available times average number of frequencies in place. This value is expressed as a percentage and derived by the following calculation.

$$\text{Aad} = \frac{[(\text{Max avail time}) \times (\text{Avg. no. freqs. in place}) - (\text{Adj. freqs. outage time})]}{(\text{Max avail time}) \times (\text{Avg. no. of freqs. in place})} \times 100$$

d. **Equipment and Service Availability (Aes).** Aes is the ratio of maximum facility/service hours minus unscheduled hours to maximum facility/service hours, expressed as a percentage and derived by the following calculation.

$$\text{Aes} = \frac{(\text{Maximum available time}) - (\text{Total freq. unscheduled time})}{\text{Maximum available time}} \times 100$$

e. **Unscheduled Mean Time Between Outages (MTBO).** Unscheduled MTBO represents the mean (average) operating time for the frequencies in place between unscheduled outages and is derived by the following calculation:

$$\text{MTBO} = \frac{(\text{Max avail time}) \times (\text{Avg. no. freqs. in place}) - (\text{Total freqs. unscheduled outage time})}{\text{No. of unscheduled freq. outages}}$$

f. **Reliability (R).** Reliability is defined as the probability that a frequency will perform its intended mission for the given mission time, expressed as a percentage and derived by the following calculations:

$$R = e^{(-t/\text{MTBO})} \times 100$$

where t = mission time (24 hours), and e = 2.71828

g. **Unscheduled Mean Time To Restore (MTTR).** Unscheduled MTTR represents the average duration per outages and is derived by the following calculations:

$$\text{MTTR} = \frac{\text{Total Frequency Outage Time}}{\text{No. of unscheduled freq. outages}}$$

504. **TELCO LINE PERFORMANCE INDICATORS.** The procedures for deriving TELCO line performance are identical to those for en route and terminal communications with two exceptions. All performance data is calculated with respect to number of days in a report period in lieu of hours. In addition, all TELCO lines (primary and spare) are included in the computation. Service operational availability is an additional performance indicator used for TELCO line analysis and is derived by subtracting spare line in-use time from total scheduled and unscheduled outage time before computing availability. Service operational availability is in addition to operational availability. An example formula used for MTBO is provided.

$$\text{MBTO} = \frac{(\text{No. days in period}) \times (\text{No. lines in place}) - (\text{Total outage time in days})}{\text{No. of unscheduled TELCO outages}}$$

505. **NATIONAL AIRSPACE SYSTEM PERFORMANCE ANALYSIS SYSTEM (NASPAS).** NASPAS is a microcomputer-based system for use in accomplishment of facility/service performance trend analysis. The system is distributed to headquarters, regional and field organizations within AF. The system is capable of extracting user defined outage parameters, performing calculations, and generating graphics for report writing. For further detailed information, refer to the NASPAS Users' Manual.

506.-599. **Reserved.**

APPENDIX 1. REFERENCE GUIDES

FACILITY TYPE	REFERENCE PARAGRAPH (Order 6040.15D)	FACILITY TYPE	REFERENCE PARAGRAPH (Order 6040.15D)	FACILITY TYPE	REFERENCE PARAGRAPH (Order 6040.15D)	SERVICE TYPE	REFERENCE PARAGRAPH (Order 6040.15D)	SERVICE TYPE	REFERENCE PARAGRAPH (Order 6040.15D)
AFSS	211c(1)(a)	LOM	213b(2)(a)	TACR	213b(1)(a)	ASDES	214b(2)	TSEC	214b(3)(c)
ALS	213a	MALS	213a(2)	TDWR	215d(3)	AWPC	215c(2)	VSCSS	212a(3)(b)
ARSR	214a(1)(a)	MALSR	213a(2)	TMLI	214c(3)(b)	AWPI	215c(3)	WDAT	215g(3)
ARTS	211b(1)	MIG	214a(2)	TMLR	214c(3)(b)	AWPS	215c(4)	WMSCS	215g(2)
ASDE	214b(1)	MIM	214a(2)	TMLT	214c(3)(b)	AWPTEW	215c(5)		
ASI	215a	MLSA	213b(2)(b)	TRVSS	314c(4)	BDAT	214a(1)(d)		
ASOS	215b	MLSBA	213b(2)(b)	TVS	212b(3)	BUECS	212a(1)(c)		
ASR	214b(2)(a)	MLSD	213b(2)(b)	VEARS	212a(3)(c)	CFAD	211a(1)(c)		
ATCBI	214c(1)(a)	MLSE	213b(2)(b)	VOR	213b(1)(b)	CFCS	211c(6)		
ATCRB	214c(1)(b)	MLSF	213b(2)(b)	VRS	212c(5)	CODAP	211a(4)(b)		
ATIS	212c(1)	MM	213b(2)(a)	VSCS	212a(3)(a)	COFAD	211a(5)(b)		
AWOS	215b	MODES	214c(1)(c)	VTABS	212a(3)(d)	CRAD	211a(1)(d)		
AWP	215c(1)	MPS	211c(4)(a)	WME	215d(3)	CTAS	211a(6)		
BRITE	214b(4)	NADIN	211c(5)(a)	WMSCR	215g(1)	DRAD	211a(2)(b)		
BUEC	212a(1)(a)	NDB	213b(3)(e)			ECOM	212a(2)(a)		
CCCH	211a(1)(a)	NRCS	212c(6)			ERAD	214a(1)(c)		
CD	214a(1)(b)	NXRAD	215e(1)			ESEC	214a(1)(c)		
CDC	211a(1)(b)	ODALS	213a(3)			ETARS	211a(3)		
CMLR	214c(3)(b)	ODAPS	211a(4)(a)			ETMS	211c(2)		
CMLT	214c(3)(b)	OFDPS	211a(5)(a)			FCOM	212c(7)(a)		
DARC	211a(2)(a)	OM	213b(2)(a)			FDAT	211c(3)(a)		
DCCR	211a(1)(e)	PCS	216a			FSSAS	211c(1)(c)		
DF	213b(3)(a)	PRM	214c(5)			FSSPS	211c(1)(d)		
DFI	213b(3)(b)	PUP	215e(2)			IDAT	211c(3)(b)		
DME	213b(3)(c)	RBDPE	211b(3)			LLWS	215d(2)		
DMER	213b(3)(d)	RCAG	212a(2)(b)			MDAT	214a(1)(f)		
DSR	211a(1)(f)	RCLR	214c(3)(a)			MLSS	213b(2)(d)		
EARTS	211a(3)	RCLT	214c(3)(a)			MPSS	211c(4)(b)		
FDIOC	211a(1)(g)	RCO	212c(7)(b)			MSEC	214c(1)(d)		
FDIOR	211b(2)	RMLR	214c(3)			NADS	211c(5)(b)		
FM	213b(2)(a)	RMLT	214c(3)			NAMS	211c(5)(c)		
FOTS	212c(2)	RRWDI	215f(1)			NDAT	211c(5)(d)		
FSDPS	211c(1)(b)	RRWDS	215f(2)			PCSS	216b		
GATR	212c(3)	RTR	212b(1)			RDAT	214a(1)(d)		
GS	213b(2)(a)	RVR	213b(3)(f)			RTADS	211b(4)		
ICSS	212c(4)	SACOM	212c(8)			RTRDS	214b(2)(b)		
IFF	214c(2)	SALS	213 a(2)			RVRS	213b(3)(g)		
IM	213b(2)(a)	SSALR	213 a(2)			TARS	211b(5)		
LDIN	213a(3)	SSALS	213 b(2)c			TCOM	212b(2)		
LLWAS	215d(1)	STARS	211b(2)			TDWRS	215d(5)		
LOC	213b(2)(a)	SX	216c			TRAD	214b(3)(c)		

Figure 1-2. Associated/Related Service Reference Guide

FACILITY TYPE	ASSOCIATED SERVICE	SERVICE FAULT LOCATION	RELATED SERVICE	SERVICE FAULT LOCATION
AFSS	FSSAS	REMOTE 'S'		
ARSR	ERAD	REMOTE 'S'	RDAT/BDAT/ESEC/ETARS	REMOTE 'S'
ARTS	TARS/IDAT	CONTROL 'C'	TSEC/RTADS/RTRDS	CONTROL 'C'
ASDE	ASDES	CONTROL 'C'		
ASR	TRAD	REMOTE 'S'	TSEC/TARS/RTADS/RTRDS	REMOTE 'S'
ATCBI	ESEC	REMOTE 'S'	BDAT/ETARS	REMOTE 'S'
ATCRB	TSEC /ESEC	REMOTE 'S'	TARS/BDAT/RTADS/ETARS	REMOTE 'S'
AWP	AWPS	CONTROL 'C'		
CCCH	CFAD/ FDAT/IDAT	CONTROL 'C'	CRAD	CONTROL 'C'
CD	BDAT/RDAT	REMOTE 'S'	ETARS	REMOTE 'S'
CDC	CRAD	CONTROL 'C'	CFAD	CONTROL 'C'
	ECOM/BDAT/RDAT			
CML	FDAT /IDAT/RTADS	LINK 'F'		
	ECOM/BDAT/RDAT			
CMLR	FDAT /IDAT/RTADS	LINK 'F'		
	ECOM/BDAT/RDAT			
CMLT	FDAT /IDAT/RTADS	LINK 'F'		
CNS	CNSS	CONTROL 'C'		
DARC	DRAD	CONTROL 'C'	CFAD	CONTROL 'C'
DCCR	CRAD	CONTROL 'C'	CFAD	CONTROL 'C'
DSR	CRAD	CONTROL 'C'	CFAD	CONTROL 'C'
EARTS	ETARS/IDAT	CONTROL 'C'	ERAD/ESEC	CONTROL 'C'
FDIOR	FDAT	REMOTE 'S'		
FSDPS	FSSPS	CONTROL 'C'		
MEART	ETARS			
MODES	MDAT/MSEC	REMOTE 'S'	TARS/ETARS	REMOTE 'S'
MPS	MPSS	CONTROL 'C'		
NADIN	NADS (SWITCH)	CONTROL 'C'		
	NAMS (CONCENTRATOR)	REMOTE 'S'		
ODAPS	CODAPS	CONTROL 'C'		
OFDPS	COFAD	CONTROL 'C'		
RBDPE	TARS	CONTROL 'C'	TSEC	CONTROL 'C'
RCAG	ECOM	REMOTE 'S'		
	ECOM/ERAD/ESEC/BDAT/			
RCLR	RDAT/BDAT/IDAT/RTADS	LINK 'F'		
	ECOM/ERAD/ESEC/BDAT/			
	RDAT/BDAT/IDAT/RTADS/			
RCLT	TRAD/TSEC	LINK 'F'		
RCO	FCOM	REMOTE 'S'		
	ECOM/ERAD/ESEC/BDAT/			
RMLR	RDAT/BDAT/IDAT/RTADS	LINK 'F'		
	ECOM/ERAD/ESEC/BDAT/			
RMLT	RDAT/BDAT/IDAT/RTADS	LINK 'F'		
STARS	TARS/ IDAT	CONTROL 'C'	TSEC/RTADS/RTRDS	CONTROL 'C'
WMSC	WMSCS/WDAT	CONTROL 'C'		

Service Fault Location identifiers are for Services ONLY. Do not enter Fault Location for Facilities.

NOTE: This is not an all-inclusive listing, other services or facilities may apply.

** The Related Services indicated on this form have the potential to fail but may not fail in all cases.

APPENDIX 2. EXAMPLES OF REPORTING INCIDENTS

This section lists examples that illustrate how various facility and service interruptions should be reported. Some of the examples include identifying the cause of the interruption. This is a requirement for reporting. See the MMS User's Guide for report format and additional information.

Example Reference Guide

<u>Facility or Service</u>	<u>Example Number</u>	<u>Facility or Service</u>	<u>Example Number</u>
ARSR.....	18,19,20	FDAT	24,38
ARTS.....	1,2,10,11,12	FDIOR.....	38
ASDE.....	17	FSSAS.....	53,54,56,57,58,59, 62,64
ASR	1,3,4,5,7,8,9	FSSPS	53,54,56,59,62,64
ATCRB.....	1,3,4,5,6,7,8,9,18,20	FSDPS.....	56,59
ATCBI.....	2	GS	46,47
AWOS.....	69,70,71,72,73	IDAT	24
AWP	53,54,55	IM.....	45
AWPS.....	53,55	LOC.....	46,48,49,50
AWPC/I.....	53,55	LLWS.....	
AWPTE/W	53,54	NADIN.....	60,62
BDAT	18,19,20,21,23	NADS.....	53,60,62
BRITE	13,14	NAMS	54,60,61,62
BUECS	41	NDAT	63
CCCH	22,24,26,27,28,29, 30,31,32,33,34,35	RCAG	42,43
CD	18,19,20,29	RDAT.....	18,19,20,21,23
CDC/DCCR.....	21,22,23,24,25,26, 27,29,30,31,32,33, 34,35,36,37	RTADS	10,13,14,15,16
CENRAP	68	RTRDS.....	14,15
CFAD	18,21,22,24,25,26, 27,29,30,31,32,33,34	SX.....	20,43,53,60
CRAD	18,19,21,22,23,24, 25,26,27,29,30,31, 32,33,34,35,36,37	TACR.....	51,52
DARC	23,25,26,39,40	TARS	1,2,3,4,5,6,7,10,11,12
DME	44	TCOM.....	65,66
DRAD.....	18,22,23,24,25,26, 39,40	TDWR.....	67
ECOM	42,43	TMLR	15,16
ERAD	18	TRAD.....	1,3,4,5,7,8,9,10,11, 12,13,16
ESEC	18	TSEC.....	1,2,3,4,5,6,7,8,9,10, 11,12,13,16
		VOR	52
		WMSCR.....	64
		WMSCS	64

1. The azimuth pulse generator (APG) unit fails in the ASR antenna creating a loss of all sweeps at the terminal indicators. The terminal facility provides a TARS service. The following facilities would report:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
ASR	Yes	80	N/A
ATCRB	No	-	-
TRAD	Yes	80	Remote
TSEC	Yes	88	Remote
ARTS	No	-	-
TARS	Yes	88	Remote

NOTE: Although the sweep was lost on all consoles at the indicator terminal and neither primary nor secondary radar and alphanumeric could be viewed, the ATCRB and ARTS facilities do not require reports since their operation as facilities was not affected. The TSEC and TARS services are reported and coded as related services.

2. The azimuth pulse generator (APG) unit at an ATCBI site fails causing the loss of all data to the ARTS at the terminal facility. The following facilities would report:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
ATCBI	Yes	80	N/A
TSEC	Yes	80	Remote
ARTS	No	-	-
TARS	Yes	88	Remote

3. A relay fails in the ATCBI-3 equipment at the ASR site. The terminal is providing a TARS service. The following facilities would report:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
ASR	No	-	-
ATCRB	Yes	80	N/A
TRAD	No	-	-
TSEC	Yes	80	Remote
ARTS	No	-	-
TARS	Yes	88	Remote

NOTE: Since the ASR equipment continued to function normally, no ASR or TRAD report is required. Note that the TARS is coded 88 (related) because the loss of TARS service was caused by a facility not directly associated with the ARTS.

4. Failure of an ATCRB directional antenna resulted in loss of TSEC and TARS service. Broadband radar operation was not affected. The following facilities would report:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
ATCRB	Yes	80	N/A
ASR	No	-	-
TSEC	Yes	80	Remote
TRAD	No	-	-
TARS	Yes	88	Remote

5. The ATCRB interruption in example 4 continued until the ASR could be scheduled for repair of the directional antenna. The following facilities would report:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
ATCRB	Continuing	80	N/A
ASR	Yes	68	N/A
TSEC	Continuing	80	Remote
TRAD	Yes	68	Remote
TARS	Continuing	88	Remote

6. A technician working on the off-line ATCRB channel accidentally turned off the on-line channel causing the loss of TSEC to the tower. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
ATCRB	Yes	89	N/A
TSEC	Yes	89	Remote
TARS	Yes	88	Remote

7. An ASR modernization project required a shutdown of an ASR. The terminal is providing TARS service. The following facilities would report:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
ASR	Yes	62	N/A
ATCRB	No	-	-
TRAD	Yes	62	Remote
TSEC	Yes	68	Remote
TARS	Yes	68	Remote

8. ASR triggers are lost due to a failed component at the radar site. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
ASR	Yes	80	N/A
TRAD	Yes	80	Remote
ATCRB	No	-	-
TSEC	Yes	88	Remote

9. An air traffic controller at the tower inadvertently turned off the on-line ASR transmitter causing the loss of TRAD to the tower. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
ASR	No	-	-
TRAD	Yes	89	Control
ATCRB	No	-	-
TSEC	No	-	-

10. An I/OP at an ARTS facility fails, causing the loss of alphanumerics to all displays. The following facilities would report:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
ARTS	Yes	80	N/A
TARS	Yes	80	Control
TRAD	No	-	-
TSEC	No	-	-
RTADS	Yes	88	Remote

11. The data systems specialist at an ARTS facility improperly inserts a program patch in the operational program. Sometime after startup the program faults causes loss of alphanumerics to all displays. The following facilities would report:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
ARTS	No	-	-
TARS	Yes	89	Control
TRAD	No	-	-
TSEC	No	-	-

12. In example 11, if the patch had been inserted properly and the logic of the program patch was not correct and causes a loss of alphanumeric to all displays, the cause code will be 86. The following facilities would report:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
ARTS	No	-	-
TARS	Yes	86	Control
TRAD	No	-	-
TSEC	No	-	-

13. An ARTS facility remotes alphanumeric data and primary and secondary radar data via a DBRITE system to a satellite tower. The DBRITE facility fails, causing a loss of remoted alphanumerics and all radar data. The satellite facility would report:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
BRITE	Yes	80	-
RTADS	Yes	80	Remote
TRAD	Yes	80	Remote
TSEC	Yes	80	Remote

14. If the satellite tower in example 13 utilized the data for flight advisory only, the following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
BRITE	Yes	80	-
RTADS	Yes	80	Remote
RTRDS	Yes	80	Remote

15. If the satellite tower in example 14 was serviced by an FAA TML and its power supply failed causing a loss of both the alphanumerics and broadband radar data, the following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
BRITE	Yes	80	-
TMLR	Yes	80	-
RTADS	Yes	80	FAA Line/Link
RTRDS	Yes	80	FAA Line/Link

16. If the situation in example 15 involved a tower providing radar separation, the following results would occur:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
TMLR	Yes	80	-
RTADS	Yes	80	FAA Line/Link
TRAD	Yes	80	FAA Line/Link
TSEC	Yes	80	FAA Line/Link

17. Failure of an ASDE waveguide results in the loss of ground target presentation. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
ASDE	Yes	80	N/A
ASDES	Yes	80	Remote

18. An ARSR-2 fails and the standby channel is inoperative. The failure causes the loss of all primary radar information (broadband and narrowband) at the ARTCC. A reduced CRAD service operation did not result. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
ARSR	Yes	80	N/A
ATCRB	No	-	-
CD	No	-	-
ERAD	Yes	80	Remote
ESEC	No	-	-
RDAT	Yes	88	Remote
BDAT	No	-	-
CFAD	No	-	-
CRAD	No	-	-
DRAD	No	-	-

NOTE: If the ARSR interruption had also caused the loss of the ESEC and BDAT services at the ARTCC, these would have been reported and coded as 88 (related).

19. An ARSR-3 experiences a failure in the common digitizer equipment. Digitized radar and beacon data are not available to the ARTCC. Lack of overlapping coverage resulted in the AT assistant manager declaring an operational impact for CRAD service. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
ARSR	No	-	-
CD	Yes	80	N/A
RDAT	Yes	80	Remote

19. (Con't)

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
BDAT	Yes	80	Remote
CRAD	Yes (RS Only)	88	Remote

NOTE: The CRAD service resulted in a reduced service operation because of an operational impact. If there was no operational impact, a report would not be required.

20. Commercial power to an ARSR site fails and the engine generator failed to assume the load due to engine generator switchgear failure. This facility provided only narrowband radar data to ARTCC. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
ARSR	Yes	83	N/A
ATCRB	Yes	83	N/A
CD	Yes	83	N/A
RDAT	Yes	83	Remote
BDAT	Yes	83	Remote
SX	Yes	80	N/A

21. The CDC or DCCR facility at an ARTCC fails and the DARC equipment is utilized to backup the CRAD. CFAD is not affected. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
CFAD	No	-	-
CDC/DCCR	Yes	80	N/A
CRAD	Yes	80	Control
RDAT	No	-	-
BDAT	No	-	-

22. Some period of time after the situation in example 21 occurs, a CCCH shutdown is required to perform checks on the CDC/DCCR facility, including some of the PVDs but not all. At the time of approved release, the following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
CCCH	Yes	68	N/A
CFAD	Yes	68	Control
CDC/DCCR	Continuing	80	N/A
CRAD	Continuing	80	Control
DRAD	No	-	-

NOTE: The original CRAD and CDC/DCCR interruption reports are still in effect using the original category code until the CDC/DCCR problem is repaired and the CRAD service is

restored. CCCH is required because it is being used for scheduled corrective hardware activity on CDC/DCCR and is not available to perform its intended function.

23. The CRAD service has been unavailable at an ARTCC due to scheduled activities. The DRAD, which was backing up the CRAD, fails due to equipment problems in the DARC. AT operation is switched to broadband. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
CRAD	Continuing	60	Control
DARC	Yes	80	N/A
DRAD	Yes	80	Control
RDAT	No	-	-
BDAT	No	-	-

24. The CCCH facility at an ARTCC fails, causing the loss of all CFAD and CRAD services. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
CCCH	Yes	80	N/A
CFAD	Yes	80	Control
CDC/DCCR	No	-	-
CRAD	Yes	88	Control
DRAD	No	-	-
IDAT	No	-	-
FDAT	No	-	-

25. The DARC equipment at an ARTCC fails. At a later time, while the DARC is still inoperative, the CDC/DCCR equipment fails and DARC failed to provide backup during the entire duration of the CRAD interruption. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
CDC/DCCR	Yes	80	N/A
CRAD	Yes	80	Control
DARC	Continuing	80	N/A
DRAD	Continuing	80	Control
CFAD	No	-	-

NOTE: The CRAD, CDC/DCCR, DARC, and DRAD interruptions would be reported for the entire time that each existed.

26. An ARTCC has scheduled the CCCH and CDC down for software corrective maintenance. While the DARC was being used as a primary system a display processor fails resulting in the loss of six displays. None of the other displays in the center were affected. Two of the sectors were operational and had to be combined at another operational position. An operational impact resulted. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
CFAD	Continuing	67	Control
CRAD	Continuing	66	Control
DARC	Yes	80 (Reduced)	N/A
DRAD	Yes	80 (Reduced)	Control

27. An AT data system specialist enters an incorrect message resulting in NO-OP of the NAS system. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
CCCH	No	-	-
CFAD	Yes	89	Control
CRAD	Yes	88	Control
CDC/DCCR	No	-	-

28. An ARTCC is operating with the primary system on-line and PAM-3 is not available because of a hardware failure. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
CCCH	Yes	80 (Equip Only)	N/A

29. For the situation in example 28 a request is made at 1300z and approved for a scheduled CCCH shutdown for 1430z to analyze and correct the problem in PAM-3. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
CCCH	Yes	65	N/A
CFAD	Yes	65	Control
CRAD	Yes	68	Control
CDC/DCCR	No	-	-

30. Before the scheduled shutdown in example 29 could begin PAM-1 experiences a parity error which causes the PAM to be removed from the system to attempt a replacement with the unavailable PAM-3. Interruption of service occurs at 1425z and AT and AF agree to keep the system out of service until the PAMs, PAM-1, and PAM-3 are repaired. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
CCCH	Yes	80	N/A
CFAD	Yes	80	Control
CRAD	Yes	88	Control
CDC	No	-	-

NOTE: A cause code 80 is reported because the system failed prior to the approved scheduled shutdown.

31. An ARTCC has experienced five software program aborts in the past half hour. AT and AF agree that a shutdown should be taken to correct the problem. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
CCCH	NO	-	-
CFAD	Yes	86	Control
CRAD	Yes	88	Control
CDC	No	-	-

NOTE: This shutdown cannot be scheduled because the software is not operating within operational requirements; i.e., the software is experiencing aborts.

32. An ARTCC that is equipped with a CCCH/CDC computer system is operating normally. However, response times are increasing gradually and the printed output is slowing down. The operational computer software does not indicate any abnormality. The hardware elements appear to be operating properly. In a matter of a few minutes the system output stops at all devices except at the system KDVT. The computer operator, at the direction of the systems engineer, pushes the external interrupt button. The system accomplishes a successful reestablish mode of startover and returns to a complete normal operation. Initial analysis of the events before and after the external interrupt and the abort dump output provides no indication as to the cause of the problem. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
CCCH	Yes	87	N/A
CFAD	Yes	87	Control
CDC	Yes	87	N/A
CRAD	Yes	87	Control

33. Reference example 32, two days later the same situation occurs and just prior to a complete lockout the systems engineer notices a paper jam on the systems maintenance and monitor console medium speed printer (MSP). The systems engineer enters a no-op input/output on a logical device message (NPIO) for the MSP. The situation clears and no more problems are encountered. The problem is created on command during testing. Because of this new information, the previous entries made two days earlier would be corrected to reflect a cause code 86 for the CCCH and CFAD, and a cause code 88 for CRAD. The CDC entry would be voided.

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
CFAD	Yes	86	Control
CDC	Voided	-	-
CRAD	Yes	88	Control

34. An AF computer operator loads an offline job assignment into the operational system resulting in an interruption. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
CCCH	No	-	-
CFAD	Yes	89	Control
CRAD	Yes	88	Control
CDC/DCCR	No	-	-

35. An AF technician removes an I/OT from DCCR without proper power off procedures resulting in a NAS interruption. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
DCCR	Yes	89	-
CRAD	Yes	89	Control
CCCH	No	-	N/A

36. The ASCO power switch in the CDC equipment room area fails; power transfer is successful but a momentary power failure occurs with a resultant service interruption. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
CDC	Yes	80	N/A
CRAD	Yes	80	Control

37. An air-conditioning unit fails; CDC equipment overheats and result in a service interruption. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
CDC	Yes	80	N/A
CRAD	Yes	80	Control

NOTE: The cause of the equipment failure would be identified as environmental.

38. An approach control facility is equipped with one RCU, one RANK, and two FSP's. Both FSP's failed at the same time. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
FDIOR	Yes	80	N/A
FDAT	Yes	80	Remote

39. A problem is experienced on the DARC system in which R-Controls are lost. An investigation reveals that both CP's are malfunctioning. Air Traffic states that the only impact was that they noticed was that DARC was unavailable for R-Control inputs. Cause was unknown. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
DARC	No	-	-
DRAD	Yes	87	Control

40. A problem is experienced on the DARC system in which 12 PVD's do not have maps or radar data. An investigation reveals that two DP's may be malfunctioning. The cause is unknown. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
DARC	No	-	-
DRAD	Yes	87	Control

41. A complete power failure occurs at the XYZ BUEC site. Both UHF/VHF transceivers are out of service. No E/G is available at the site. The controlling ARTCC shall report the following condition:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
BUEC	Yes	82	-
BUECS	Yes	82	Remote

42. A technical specialist on an FAA-contracted modernization project accidentally cut into a TELCO cable outside the RCAG building. This resulted in the loss of ECOM service from the RCAG site. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
ECOM	Yes	89	TELCO
RCAG	No	-	-

43. Loss of commercial power at an RCAG resulted in the engine generator assuming the load; however, the engine generator ran out of gas before commercial power could be restored. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
RCAG	Yes	83	N/A
ECOM	Yes	83	Remote
SX	Yes	80	N/A

NOTE: If the initial fuel level was less than required minimums, the above example would be coded 83 (Standby Power) with a supplemental cause code of 4 (Insufficient Fuel).

44. A DME facility is reported out of service. When the equipment is checked at the site, no problems are found. The ARTCC NOM verifies reports of military electronic counter measure (ECM) operations in the area. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
DME	Yes	84	N/A

45. It was reasonably certain that a power surge at an inner marker caused the blown fuse which resulted in a loss of primary power. No interruption resulted until the batteries ran down. The following condition would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
IM	Yes	83	N/A

46. Runway construction (improvements) resulted in removing the glide slope and localizer from service for the period of time the runway was closed. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
LOC	Yes	62	N/A
GS	Yes	62	N/A

47. A GS was scheduled out of service for 1 hour (1200Z-1300Z) for routine maintenance. During this time, an out-of-tolerance condition was detected and the cause was yet to be determined. At 1250Z, a request for a 2-hour extension (1300Z-1500Z) was made and approved by AT. At 1445Z, a failed component was found and placed on order, priority 1. At that time it was determined that delivery of the part would take 2 days and work would commence then. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
GS (1200Z-1445Z)	Yes	60	-
GS (1445Z-)	Yes	80	-

NOTE: The unscheduled outage will end when the GS is returned to service.

48. An air traffic controller inadvertently turned off a LOC. The following condition would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
LOC	Yes	89	N/A

49. A LOC was scheduled out of service for a scheduled flight inspection. The following condition would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
LOC	Yes	63	N/A

50. During the flight inspection of the LOC in example 49, an out-of-tolerance course width was detected. The problem could not be rectified and the flight inspection aircraft left the vicinity. The scheduled interruption shall be terminated and an unscheduled interruption shall commence at the time the aircraft left the vicinity. If the cause is still unknown at this time, the following condition would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
LOC	Yes	87	N/A

NOTE: Once the problem has been identified, the LIR shall be updated with the appropriate cause code.

51. Commercial power to a VORTAC site fails. It was determined that the engine generator started and assumed the load within the time required in the specifications, however the main circuit breaker for the TACAN tripped. The following condition would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
TACR	Yes	82	N/A

NOTE: Since the engine generator equipment operated within specification, primary, rather than standby power is reported as the cause of the interruption. No SX report is needed.

52. Routine maintenance was performed on the TACR antenna at a VORTAC facility resulting in a related interruption of the VOR facility. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
VOR	Yes	68	N/A
TACR	Yes	60	N/A

53. A complete power failure occurs at the ATL AWP facility. The E/G was previously out for scheduled maintenance activities. The ATL NADIN facility is not affected. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
AWP	Yes	82	Control
AWPS	Yes	82	Control
AWPC/AWPI	No	-	-
AWPTE/W	No	-	-
NADS	No	-	-
NAMS	No	-	-
FSSPS/FSSAS	No	-	-
SX	Yes	60	-

54. Data communications between ATL AWP and ZNY FSDPS were interrupted due to a TELCO failure. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
AWP/AWPS	No	-	-
ZNY AWPTE	Yes	81	TELCO
FSSPS/FSSAS	No	-	-

55. Data communications between both AWP facilities were interrupted due to a TELCO failure. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
ATL AWPI	Yes	81	TELCO
AWP/AWPS	No	-	-

56. At the FSDPS a scheduled load of the national data base (NDB) 56 day charting date will be loaded. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
FSSPS (ZXX)	Yes	66	Control
FSSAS (XYZ)	No	-	-
FSSAS (DEF)	No	-	-
FSSAS (ABC)	No	-	-

57. At the FSDPS, it was noted that the communications line AO and A1 to the AFSS went down. The dial-backup was configured online (interruption time was 2 minutes). The following condition would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
FSSAS (ABC)	Yes	81	TELCO

58. At the FSDPS, it was noted that the communications line A0 to the AFSS was down. AFSS specialists indicated an impact to the FSSAS service. The following condition would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
FSSAS (ABC)	Yes	81 (Reduced)	TELCO

59. At the FSDPS, a weather retrieval trap-out occurred. The system stopped processing, a NDB reload was required to continue normal operation. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
FSSPS (ZXX)	Yes	86	Control
FSSAS (ABC)	No	-	-
FSSAS (XYZ)	No	-	-
FSSAS (DEF)	No	-	-

60. A complete commercial power failure occurred at the ATL switching center and the engine generator failed to assume the load.

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
ATL NADIN	Yes	83	N/A
ATL NADS	Yes	83	Control
ZXX NAMS	No	-	-
ZXX SX	Yes	80	-

61. TELCO lines between the SLC NADIN switching center and the ZLA ARTCC NADIN concentrator failed due to a power outage near Los Angeles, CA.

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
ZLA NAMS	Yes	81	TELCO

NOTE: ZLA NAMS can be restored when dial backup lines to SLC/ATL switching centers are activated and acceptable data transfer is provided.

62. A complete failure of a Front-End Processor (FEP) at the Salt Lake City NADIN causes a loss of data communication to concentrators located at Kansas City and Seattle. The following conditions would result:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
SLC NADIN	No *	80	N/A
SLC NADS	No *	-	-
ZKC NAMS	Yes	80	Control
ZSS NAMS	Yes	80	Control
FSSPS/FSSAS	No	-	-

NOTE: A reduced facility/service (RS) may be required for the NADS if an impact is recognized.

63. All TELCO lines between SLC and ATL switching Centers fail.

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
ATL NDAT	Yes	81	TELCO

64. Data communications between NKA WMSC and ZTL FSDPS was interrupted due to a TELCO line failure.

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
WMSCR/WMSCS	No	-	-
FSSPS/FSSAS	No	-	-

65. ABC tower is supported by two separate TCOM services. One of the services, ABC TCOM, is provided by the family of RTR facilities located at the airport (ABCA RTR, ABCB RTR and ABCC RTR); the other service, XYZ TCOM is provided from a RTR located at a satellite airport (XYZ RTR). Each RTR facility in our example has 10 frequencies in place. A commercial power failure at the ABCA RTR causes the loss off all operations at ABCA RTR. There is no E/G available. The following interruption reporting is required:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
ABCA RTR	Yes	82	-
ABC TCOM	Yes	82	Remote

NOTE: TCOM service interruptions are reported on a "per frequency" basis by the control facility. While the entire ABC TCOM service is composed of 30 frequencies, the ten frequencies that are missing from the service due to the failure at the ABCA RTR site are applicable for interruption reporting.

66. Reference example 65, a blown fuse in both main and standby #1 transmitters at the XYZ RTR would result in the following interruption reporting:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
XYZ RTR	Yes	80	-
XYZ TCOM	Yes	80	Remote

67. A TRACON experiences a loss of weather information due to equipment failure at the TDWR facility. The TRACON also has weather information provided by a LLWAS facility. The loss of TDWR weather information would result in the following interruption reporting:

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
TDWR	Yes	80	-
TDWRS	Yes	80	Remote
LLWAS	No	-	-
LLWS	No	-	-

68. A secondary radar failed to the ARTS facility where CENRAP is available for use. When CENRAP is in use, reduced facility/service (RS) reporting requirements apply for the TARS service.

<u>Facility/Service</u>	<u>Report Required</u>	<u>Cause Code</u>	<u>Service Fault Location</u>
TSEC/MSEC	Yes (Full)	80	Remote
TARS	Yes (RS)	80	Remote
RTADS	Yes (RS)	80	Remote

69. A failure of the wind sensor transducer at XYZ AWOS.

<u>FAC/IDENT</u>	<u>SN</u>	<u>EI</u>	<u>CC</u>	<u>IC</u>	<u>CAUSE/DESC</u>	<u>FA/CA</u>	<u>EQSN</u>
AWOS XYZ	SENSOR	100227	80	RS	EQ/WIND	12345	

70. A complete loss of commercial power to ABC AWOS.

<u>FAC/IDENT</u>	<u>SN</u>	<u>EI</u>	<u>CC</u>	<u>IC</u>	<u>CAUSE/DESC</u>	<u>FA/CA</u>	<u>EQSN</u>
AWOS ABC			82	FL	PF/COMMERCIAL		

71. A failure of the landline modem in the data collection platform at DEF AWOS.

<u>FAC/IDENT</u>	<u>SN</u>	<u>EI</u>	<u>CC</u>	<u>IC</u>	<u>CAUSE/DESC</u>	<u>FA/CA</u>	<u>EQSN</u>
AWOS DEF	DCP	403171	80	FL	EQ/MODEM	98764	

72. A failure of the voice synthesizer at the JKL AWOS.

<u>FAC/IDENT</u>	<u>SN</u>	<u>EI</u>	<u>CC</u>	<u>IC</u>	<u>CAUSE/DESC</u>	<u>FA/CA</u>	<u>EQSN</u>
AWOS JKL	CDP	404594	80	RS*	EQ/SYNTHESIZER		65432

* FL if site is not equipped with Service A.

73. A failure of the data link radio in the central data platform at PRQ AWOS.

<u>FAC/IDENT</u>	<u>SN</u>	<u>EI</u>	<u>CC</u>	<u>IC</u>	<u>CAUSE/DESC</u>	<u>FA/CA</u>	<u>EQSN</u>
AWOS PRQ	CDP	1760G	80	FL	EQ/RADIO	2468	

NOTE: A blank in the above fields indicates no entry is required.

Figure 2-1 ARTCC ENROUTE COMMUNICATION SERVICES

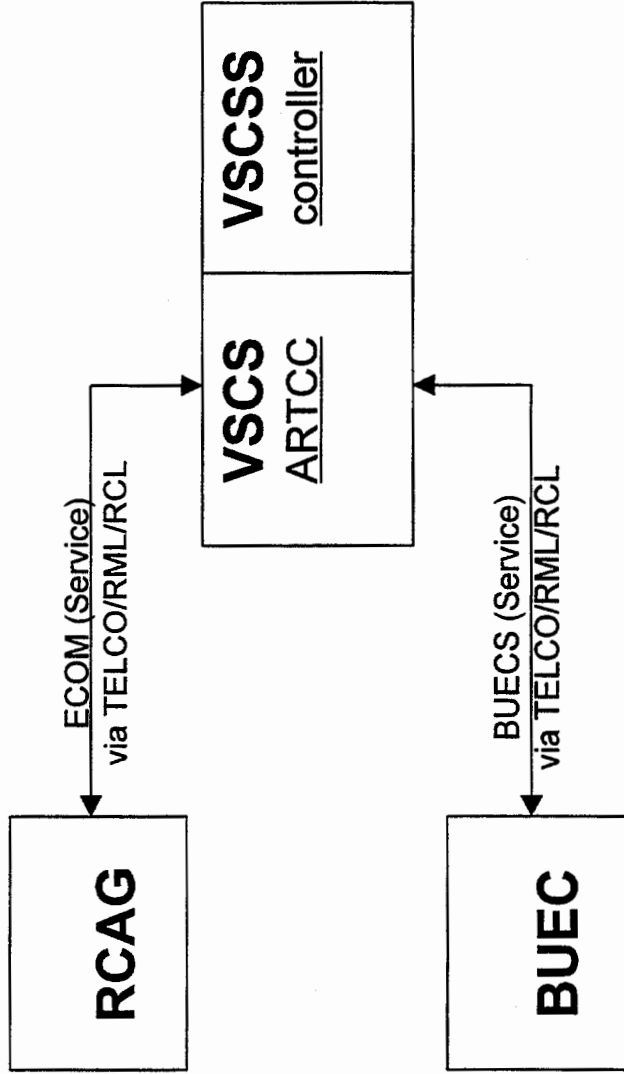


Figure 2-2 ATCT TERMINAL SERVICES

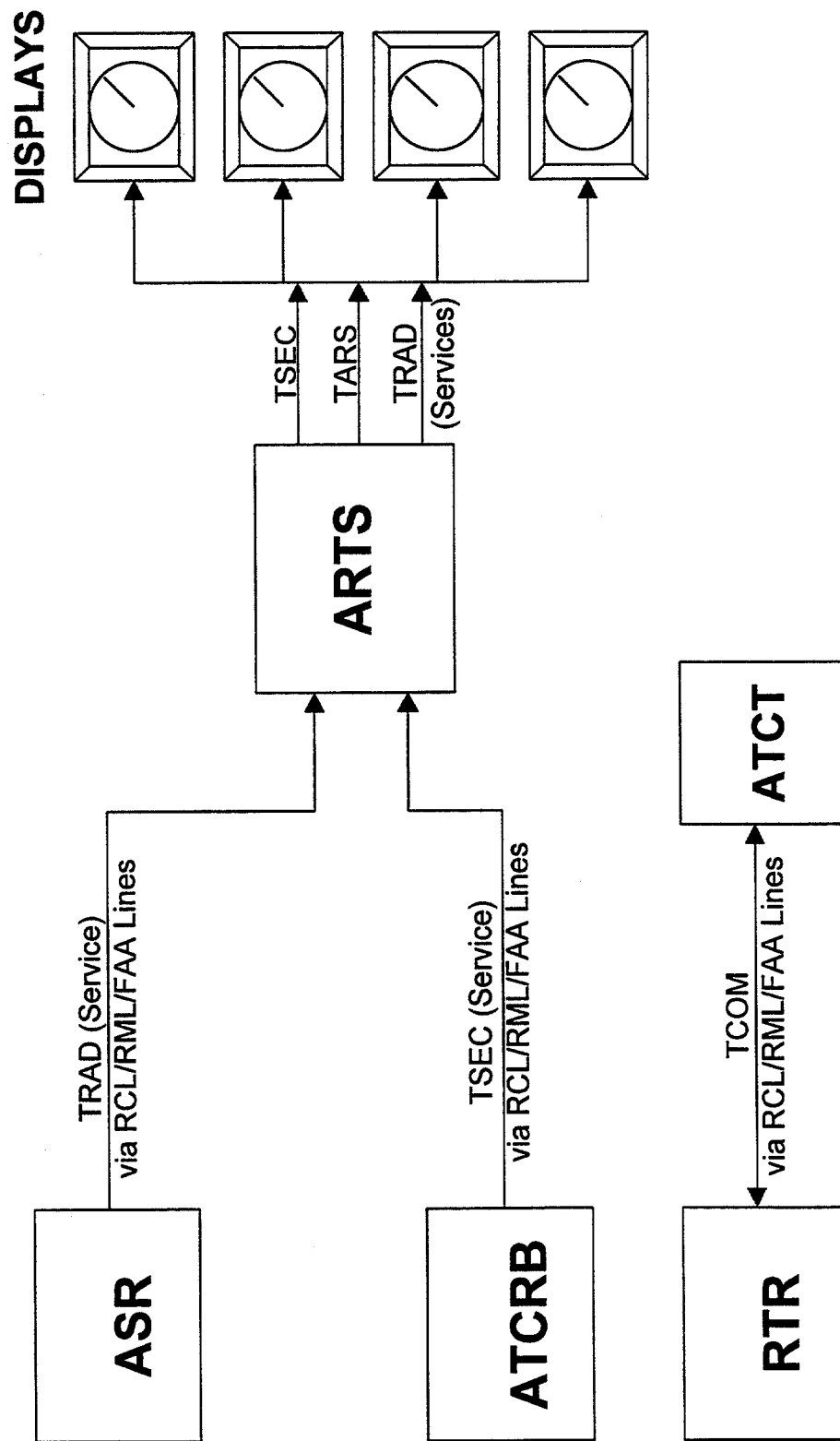
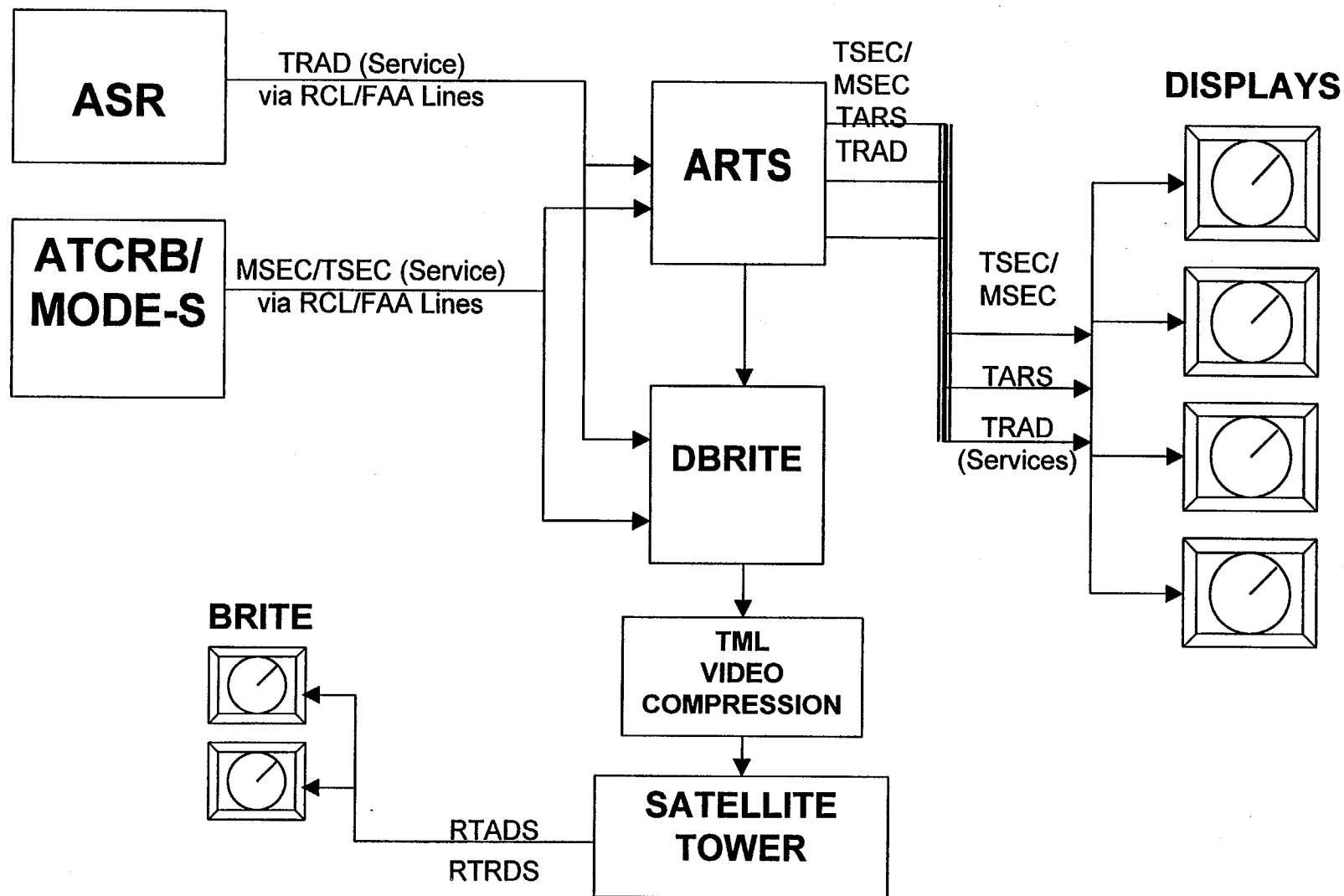


Figure 2-3 SATELLITE TOWER TERMINAL SERVICES



The diagram illustrates the data flow within the ARS (Automatic Reference System). The components and their interconnections are as follows:

- ARSR** (Automatic Reference System Receiver) and **ATCRB/MODE-S** (Automatic Terminal Collision Resolution/Mode-S) are the primary data sources.
- Both ARSR and ATCRB/MODE-S feed into the **CD** (Conflict Detection) block.
- The **CD** block outputs **RDAT** (Resolution Data) to the **RCL** (Resolution Conflict Logic) and **RML** (Resolution Mode Logic) blocks.
- The **RCL** and **RML** blocks output **BDAT** (Block Data) and **MDAT** (Mode Data) to the **CCCCH** (Conflict Resolution and Control) block.
- The **CCCCH** block outputs **CFAD** (Conflict Resolution and Control Data) to the **CDC/DCCR** (Conflict Detection and Control/Resolution) block.
- The **CCCCH** block also outputs **IDAT** (Identification Data) to the **ARTS** (Automatic Reference System Terminal) block.
- The **CCCCH** block outputs **FAD** (Flight Data) to the **FSP** (Flight Status Processor) block.
- The **CCCCH** block outputs **FDIOR** (Flight Data Input/Output) to the **FDIOR** block.
- The **CCCCH** block outputs **DRAD** (Display Resolution and Control Data) to the **DARC** (Display Resolution and Control) block.
- The **DARC** block outputs **DRAD** to the **DISPLAYS** (four individual display units).
- The **ARTS**, **TMCC** (Traffic Management Control), and **OTHER ARTCCs** (Other Air Traffic Control Centers) provide input to the **CCCCH** block.

APPENDIX 3. SUMMARY OF NASPAS PERFORMANCE REPORTS**SUMMARY OF NASPAS PERFORMANCE REPORTS**

NOTE: All inquiries regarding preparation, distribution, and content of the following reports shall be made through the Performance Management Division, AOP-200. Examples of the following reports are included in the NASPAS and MMS Users' Manuals.

Report Title and Number	Description and Format	Interval	Source	Primary Users
1. Facility and Service Outage Report by Location Identifier (RIS: AF 6040-19)	Provides a monthly or fiscal year summary for all facility types by identifier. Information such as operational availability, equipment and service availability, unscheduled and equipment reliability, MTBO, and total operating hours are calculated and listed for each separate ident.	Monthly/ Annually	Monthly summary of facility/service reportable outages from MMS.	Washington and Regional AF Divisions
2. Facility and Service Outage Report by Cause Code (RIS: AF 6040-20)	Lists summarized outage data by cause code for one, a group of, or all facility types; computes performance data such as described in Chapter 7 of this directive.	Quarterly/ Annually	Monthly summary of facility/service reportable outages from MMS.	Washington and Regional AF Divisions (AOP-200 OPI)
3. Facility and Service Outage Report - Summary Data by Region/ARTCC (RIS: AF 6040-21 A&B)	Part A of this report provides detailed summary data by region for a given facility/service type. Part B provides detailed summary data by ARTCC for all facility/service types that are under the control of the ARTCC. Computer performance data is described in Chapter 7 of this directive.	Monthly/ Quarterly	Monthly summary of facility/service reportable outages from MMS.	Washington and Regional AF Divisions (AOP-200 OPI)
4. Facility and Service Outage Report - National Rank Order Listing (RIS: AF 6040-40 A&B)	This report provides a rank order listing by facility/service type or ident. Part A lists by number of outages. Part B lists by outage duration.	Quarterly	Monthly summary of facility/service reportable outages from MMS.	Washington and Regional AF Divisions (AOP-200 OPI)
5. Facility and Service Outage Report - ARTCC Associated Facilities and Services (RIS: AF 6040-50)	This fiscal year report provides a detailed summary of those facilities and services which are under the control of the ARTCC. The report is sorted by service type, ARTCC location, and location identifier of the remote service. It contains availability, reliability, MTBO, total operating hours, and service fault location information.	Annually	Monthly summary of facility/service reportable outages from MMS.	Washington and Regional AF Divisions. (AOP-200 OPI)

APPENDIX 4. GLOSSARY

This appendix identifies acronyms and abbreviations commonly used in the National Airspace Performance Reporting System (NAPRS).

AAF	Director of Airway Facilities
AF	Airway Facilities
AFSS	Automated Flight Service Station
AIRAD	Airman Advisory
ALF	Administrative Line Frequency Definition Record
ALS	Approach Light System
ALSF	Approach Light System with Sequenced Flashers
AMASS	Airport Movement Area Safety System
ANK	Alphanumeric Keyboard
ANICS	Alaskan NAS Interfacility Communication System
AOP	NAS Operations Program (AOP-1), NAS Quality Assurance and Performance Division (AOP-200)
AOS	Operational Support Program (AOS-1)
APG	Azimuth Pulse Generator
ARSR	Air Route Surveillance Radar
ARTCC	Air Route Traffic Control Center
ARTS	Automated Radar Terminal System
ASDE	Airport Surface Detection Equipment
ASDES	Airport Surface Detection Equipment Service
ASI	Altimeter Setting Indicator
ASOS	Automated Surface Observing System
ASR	Airport Surveillance Radar
AT	Air Traffic
ATC	Air Traffic Control
ATCBI	Air Traffic Control Beacon Interrogator-Beacon Only
ATCRB	Air Traffic Control Radar Beacon-Collocated with ASR/ARSR
ATCSCC	ATC Systems Command Center
ATCT	Airport Traffic Control Tower
ATIS	Automatic Terminal Information Service
ATO	Air Traffic Operations
AWOS	Automated Weather Observing System
AWP	Aviation Weather Processor
AWPC	Aviation Weather Processor/Concentrator
AWPI	Aviation Weather Processor Interface
AWPS	Aviation Weather Processor Service
AWPTE	Aviation Weather Processor Transfer - East
AWPTW	Aviation Weather Processor Transfer - West
BDAT	Beacon Data (Digitized)
BRITE	Bright Radar Indicator Tower Equipment
BUEC	Backup Emergency Communications
BUECS	Backup Emergency Communications Service
CCCH	Central Computer Complex Host
CCU	Central Control Unit
CD	Common Digitizer
CDC	Computer Display Channel
CENRAP	Center Radar ARTS Processing
CERAP	Combined Center/RAPCON

CFAD	Composite Flight Data Processing (FDP)
CFCS	Central Flow Control Service
CIP	Capital Investment Plan
CMLR	Communications Microwave Link Repeater
CMLT	Communications Microwave Link Terminal
CODAP	Composite Oceanic Display and Planning
COFAD	Composite Offshore Flight Data
CPU	Central Processor Utilization
CRAD	Composite Radar Data Processing
CRT	Cathode Ray Tube
CTAS	Center TRACON Automation System
CVG	Character Vector Generator
DADES	Data Acquisition and Display System
DARC	Direct Access Radar Channel
DBRITE	Digital Bright Radar Indicator Tower Equipment
DCCR	Display Channel Complex Rehost
DCU	Disk Control Unit/Disk Controller Unit
DCVG	Display Character Vector Generator
DEDS	Data Entry and Display Subsystem
DF	Direction Finder
DFI	Direction Finder Indicator
DME	Distance Measuring Equipment Collocated with GS/LOC/VOR
DMER	Distance Measuring Equipment - TACR with DME (Commissioned as DME Only)
DMUX	Data Multiplexor
DRAD	DARC Radar Data Processing
DSR	Display System Replacement
E/G	Engine Generator
EARTS	En Route Automated Radar Tracking System
ECM	Electronic Counter Measures
ECCM	Electronic Counter Counter Measures
ECOM	En Route Communications
EOF	Emergency Operating Facility
EPROM	Erasable Programmable Read Only Memory
ERAD	En Route Radar (Broadband)
ESEC	En Route Secondary Radar Beacon (Broadband)
ETARS	En Route Terminal Automated Radar Service
ETMS	Enhanced Traffic Management System
FAA	Federal Aviation Administration
FCOM	FSS Communications Service
FDAD	Full Digital ARTS Display
FDAT	Flight Data Entry and Printout (FDEP) Service
FDIOC	Flight Data Input/Output Center
FDIOR	Flight Data Input/Output Remote
FDP	Flight Data Processing
FM	Fan Marker
FMF	Facilities Master File
FOTS	Fiber Optics Transmission System
FSDPS	Flight Service Data Processing System
FSEP	Facility, Service, and Equipment Profile
FSP	Flight Strip Printer
FSS	Flight Service Station

FSSAS	Flight Service Station Automated Service
FSSPS	Flight Service Station Processing Service
GATR	Ground Air Transmit/Receive Facility
GENOT	General Notice
GMT	Greenwich Mean Time (no longer used; see UTC)
GS	Glide Slope
HF	High Frequency
HF/SSB	High Frequency/Single Sideband
ICSS	Integrated Communications Switching System
IDAT	Interfacility Data Service
IDENT	Identification
IFDS	Interfacility Data System
IFF	Military Mode 4 Processor
IFR	Instrument Flight Rules
ILS	Instrument Landing System
IM	Inner Marker
IMCS	Interim Monitor and Control Software
IOP	Input/Output Processor (Also IOPB)
KW	Kilowatt
LAD	Administrative/General Report
LCM	MMS Corrective Maintenance Screen
LDIN	Lead-In Lights
LFC	Commissioning and Decommissioning Screen (MMS)
LIR	Log Interrupt Report
LLWAS	Low Level Windshear Alert System
LLWS	Low Level Wind Service
LMM	Compass Locator At Middle Marker
LOC	ILS Localizer
LOM	Compass Locator at Outer Marker
MALS	Medium Intensity Approach Lights
MALSR	Medium Intensity Approach Light System with RAIL
MCR	Multichannel Recorder
MDAT	Mode S Data Service
MEART	Micro En Route Automated Radar Tracking System
MHFR	Military Height Finder Radar
MIG	Common Digitizer Military Interface Group
MIM	Military Interface Modification on ARSR-3
MLSA	Microwave Landing System Azimuth
MLSBA	Microwave Landing System Back Azimuth
MLSD	Microwave Landing System Distance Measuring Equipment Precision
MLSE	Microwave Landing System Elevation
MLSF	Microwave Landing System Flare
MM	Memory Module or Middle Marker
MMS	Maintenance Management System
MODEM	Modulator/Demodulator
MODES	Mode S Data Link
MPL	Minimum Performance Level
MPS	Maintenance Processor Subsystem
MPSS	Maintenance Processor Subsystem Service
MSEC	Mode S Secondary Radar
MSP	Medium Speed Printer
MTBO	Mean Time Between Outages
MTTR	Mean Time To Repair

MTU	Magnetic Tape Unit
NADIN	National Airspace Data Interchange Network
NADS	NADIN Switch
NAPRS	National Airspace Performance Reporting System
NAMS	NADIN Message Transfer Service
NAS	National Airspace System
NASPAS	National Airspace System Performance Analysis System
NDAT	NADIN Data Interchange Service
NDB	Non Directional Beacon
NLODB	National Line Outage Data Base
NODB	National Outage Data Base
NOTAM	Notice to Airmen
NRKM	Non-Radar Keyboard Multiplexor
NRCS	National Radio Communications System
NWS	National Weather Service
NXRAD	Next Generation Weather Radar
ODALS	Omnidirectional Airport Lighting System
ODAPS	Oceanic Display and Planning System
OFDPS	Offshore Flight Data Processing System
OM	Outer Marker
OPSNET	Operations Network
OS	Operating System
PAMRI	Peripheral Adapter Module Replacement Item
PAPI	Precision Approach Path Indicator
PCS	Power Conditioning System
PCSS	Power Conditioning System Service
PIREP	Pilot Report
PPI	Plan Position Indicator
PRM	Precision Runway Monitor
PROM	Programmable Read Only Memory
PUP	Principal User Processor
PVD	Plan View Display
RADS	Radar Alphanumeric Display Subsystem
RAIL	Runway Alignment Indicator Light
RANK	Replacement Alphanumeric Keyboard
RBDE	Radar Bright Display Equipment
RBDPE	Radar Beacon Data Processor Equipment (TPX-42)
RCAG	Remote Center Air/Ground Communication Facility
RCL	Radio Communications Link
RCLR	Radio Communications Link Repeater
RCLT	Radio Communications Link Terminal
RCO	Remote Communications Outlet
RCU	Reconfiguration Control Unit
RDAT	Radar Data (Digitized)
RDP	Radar Data Processing
RFI	Radio Frequency Interference
RMLR	Radar Microwave Link Repeater
RMLT	Radar Microwave Link Terminal
RMM	Remote Maintenance Monitoring
RMMS	Remote Maintenance Monitoring System
RRWDS	Radar Remote Weather Display System
RRWDI	Radar Remote Weather Display Indicator

RS	Reduced Facility or Service
RTADS	Remote Tower Alphanumeric Display System
RTR	Remote Transmitter/Receiver
RTRDS	Remote Tower Radar Display Service
RVR	Runway Visual Range
SACOM	Satellite Communications Network
SALS	Short Approach Light System
SCIP	Surveillance Communications Interface Processor
SMO	System Management Office
SRAP	Sensor Receiver and Processor
SSALS	Simplified Short Approach Light System
SSALR	Simplified Short Approach Light System with RAIL
SSB	Single Side Band
STARS	Standard Terminal Automation Replacement System
SX	Engine Generator
TACR	Tactical Air Navigation - Collocated with VOR
TARS	Terminal Automated Radar Service
TCOM	Terminal Communications Service
TDWR	Terminal Doppler Weather Radar
TDWRS	Terminal Doppler Weather Radar Service
TELCO	Telephone Line (Commercial)
TMCC	Traffic Management Computer Complex
TML	Television Microwave Link
TMLI	Television Microwave Link Indicator
TMLR	Television Microwave Link Repeater
TMLT	Television Microwave Link Terminal
TMU	Traffic Management Unit
TRACAB	Terminal Radar Approach Control in Tower Cab
TRACON	Terminal Radar Control Facility
TRAD	Terminal Radar
TRVSS	Terminal Radar Video Switching System
TSEC	Terminal Secondary Radar
TVS	Terminal Voice Switch
UHF	Ultra High Frequency
UPS	uninterruptible Power Source
UTC	Coordinated Universal Time
VCS	Video Compression System
VEARS	VSCS Emergency Access Radio System
VHF	Very High Frequency
VOR	VHF Omnidirectional Range
VRS	Voice Recorder System
VSCS	Voice Switching and Control System
VSCSS	Voice Switching and Control System Service
VTABS	VSCS Training and Backup Switch
WDAT	WMSCR Data Service
WME	Wind Measuring Equipment
WMSCR	Weather Message Switching Center Replacement
WMSCS	Weather Message Switching Center Service

